"Made in Germany"

E. E. Williams

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"MADE IN GERMANY"

"MADE IN GERMANY"

LORD ROSEBERY (on Technical Education):—"I think your attention ought to be called to a little book, 'Made in Germany,' which has been published lately."

The Times:—"Mr. Williams draws a gloomy picture of the growing rivalry of German with English trade, and his exhortations to the British trader are salutary."

St. James's Gazette:—"His book is a little one, but it is better worth studying than many treatises ten times its bulk. . . . One for all Englishmen to read and to think over; it is uncommonly salutary."

Pall Mall Gazette:—"A careful and particular inquiry, drawn from the last official information available, into the encroachments of German competition upon British trade."

Saturday Review:—"Deserves all the public attention which it has received. The facts are of the highest importance to the nation. . . . Sensible advice is administered to the British manufacturer with rare tact."

Commerce:—"One of the most opportune and important commercial works ever written."

"MADE IN GERMANY"

BY

ERNEST EDWIN WILLIAMS

Second Edition

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NOTTINGHAM
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1936

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Dedicated

TO THE

MANUFACTURERS AND MERCHANTS

OF THE

UNITED KINGDOM

PREFACE

Six out of the eight chapters of this book (brought up to date and extended) have already appeared in the *New Review:* the importance of the subject is my apology for republication. They are, also, necessary as introduction to the final chapters wherein is set forth the conclusion of the matter.

During the progress of the serial portion of the work I have been taken to task by various kinds of critics, and have been called various names of a more or less uncomplimentary tendency. That was to be expected. The gift of my god-parents has been supplemented by the classic alias of Cassandra; my terms have been described as alarmist, my general statements as exaggerated, my conclusions as false. But my facts have for the most part been left alone.

My book sees the light at a somewhat inauspicious moment. We are rejoicing over one of those spurts of good trade which gladden the hearts of manufacturers and bring perplexity to the brows of economists; and I have to play the thankless part of Skeleton at the Commercial Feast. But my message, I venture to think, will be none the less useful for that. Journalists have been writing as though the current revival were a blessing vouchsafed by Providence to England in particular. As a matter of

fact England's relative share has been much less than Germany's: so that during this good time her most formidable rival has been gaining on her. And the good time isn't going to last. For the barometer is already showing a disposition to fall.

In the two last chapters I have discussed Fair and Free Trade, and I have touched on the matter in what may be deemed a tentative—the ardent Protectionist may call it a half-hearted—fashion. This cursory treatment must not be taken as a reflection of my views on the subject: it is rather the result of an anxiety to give prominence to other matters which (in the aggregate, if not individually) are of not less importance than a right adjustment of our fiscal relations.

My book has been troublesome to compile; it has also been troublesome to others. Casting back my mind across the last year I feel something very like alarm as I tell over the number of busy people whom I have worried. My first thanks to Mr. W. E. Henley, the editor of the *New Review*. Among other names which occur to me are those of Mr. T. J. Pittar, the statistician of Her Majesty's Customs, Mr. A. C. Meyjes, editor of *The Chemist and Druggist*, Mr. John Horner of Belfast, Mr. Herbert Hughes, the Secretary of the Sheffield Chamber of Commerce, Mr. Frederick Hooper, the Secretary of the Bradford Chamber, Mr. Andrew Macdonald of Glasgow, and many others, to all of whom I tender sincere thanks and apologies.

E. E. W.

SUDBURY, HARROW,
June, 1896.

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MADE IN GERMANY

I

THE DEPARTING GLORY

Preliminary

THE Industrial Supremacy of Great Britain has been long an axiomatic commonplace ; and it is fast turning into a myth, as inappropriate to fact as the Chinese Emperor's computation of his own status. This is a strong statement. But it is neither wide nor short of the truth. The industrial glory of England is departing, and England does not know it. There are spasmodic outcries against foreign competition, but the impression they leave is fleeting and vague. The phrase, "Made in Germany," is raw material for a jape at the pantomime, or is made the text for a homily by the official guardians of some particular trade, in so far as the matter concerns themselves. British Consuls, too, send words of warning home, and the number of these is increasing with significant frequency. But the nation at large is yet as little alive to the impending danger as to the evil already wrought. The man in the shop or the factory has plenty to say about the Armenian Question and the House of Lords, but about commercial and industrial matters

which concern him vitally he is generally much less eloquent. The amount of interest evinced by the amateur politician seems invariably to advance with the remoteness of the matter from his daily bread. It is time to disturb the fatal torpor : even though the moment be, in one sense, unhappily chosen. The pendulum between depression and prosperity has swung to the latter, and manufacturers and merchants are flushed with the joyful contemplation of their order-books. Slackness has given way to briskness; the lean years have been succeeded by a term of fat ones. The prophet of evil commands his most attentive audiences when the times are with him. When they are good—though the good be fleeting—his words are apt to fall unheeded.

Economists at Sea

The peril is not made any the less imminent by the flatteries with which certain political economists are wont to delude the England whose industrial interests it is their duty to safeguard. The late Professor Thorold Rogers, for example, suffered acutely from this failing. Like most of us, he was a worshipper at the shrine of Free Trade, but he sometimes served his goddess all too well. In his Oxford University lecture, *Home Trade and International Competition*,[1] we are told, by way of introduction, that home producers have a great natural advantage over foreigners in the matter of the cost of freight. Such a statement inspires no confidence in what is to follow; for it is a matter of the commonest knowledge—as it should have been of professorial knowledge even in '89—that foreign goods are delivered in the London market at a lower charge than home produce which has not travelled a tenth of the distance. We are thus almost prepared for such a piece of information as this :—"I hear of Belgian

[1] Published posthumously in his *Industrial and Commercial History of England.*

and German iron being imported into England, but I do not find the entries even in the expanded returns of imports by the Board of Trade." [1] This is surely a case for the oculist. There are two columns and a half of these imports in the Annual Returns; and the figures might, one would have thought, alarm even an Oxford economist. Later, the Professor, in his aggravating omniscience, dismisses all German-made goods as worthless: because some bayonets which the English Government once bought turned out to be of inferior steel! His airy disdain is a trifle misplaced. As matter of fact, many German manufactures, notably those in which artistic finish is needed, are undeniably superior to those produced by British houses. It is very dangerous for men to ignore facts that they may the better vaunt their theories. Because England is a Free-Trade country and Germany is not, therefore, says the fanatical Free-Trader, England's trade must of necessity advance while her rival stands still; and to prove his case, facts straightway are either to be perverted or to be denied. This is poor patriotism. It is poor service, too, to Free Trade; there is no cause so good that it cannot be weakened by suppressions of the truth. The Free-Trader must not shrink from looking the facts of foreign competition squarely in the face; and if he search for their origin he will find other causes besides a protective tariff.

From Thorold Rogers to Sir Robert Giffen is a natural transition; for the Professor bequeathed Sir Robert as a guide and a comforter to all students of political economy. Comforting, assuredly, Sir Robert is—being convinced that English trade is in a most flourishing condition; and he has been at great pains to induce other people to share his illusion. His reasons for joyfulness, as set forth in his *Essays in Finance*, are not, however, of a character to bring solace to the ordinary mind. He affirms, and he reiterates, with a great parade of argument, that the

[1] *Industrial and Commercial History of England*, p. 391.

increase of foreign manufactures is not only non-injurious to British trade, but is actually a help to it! To read is to wonder if there is anything Free-Traders will *not* say in defence of their darling doctrine. But a writer of the position and influence of Sir Robert Giffen cannot be shrugged out of court; and though I have not space to analyse his contentions in detail, I must allude at least to certain statements of his in support of his amazing thesis. The curious will find them condensed in his chapter on "Foreign Manufactures and English Trade" in the second series of his *Essays in Finance*. He also is a Free-Trader of the type which declines to admit the possibility that anything is rotten in commercial England, for the simple reason that England is a Free-Trade country, and therefore *cannot* go wrong. Let us test a link or two in the chain of his argument.

"The very increase of population," he says, "is a proof of prosperity. . . . . In about eighty years the population has trebled."[1] The first sentence may be accepted as generally true, and it gives point to the second. Now, in the earlier of those eighty years England was not suffering from foreign competition, and it was just then that her biggest increase was in progress. At the present time the rate of increase is declining, and foreign competition is getting yearly more and more acute. The obvious corollary does not seem to help Sir Robert much. Again, speaking of the annihilation of an English industry, when foreigners take to manufacturing for themselves an article hitherto supplied by England, Sir Robert makes light of the loss to her of "the original direct demand," and for this says that "at the worst there would only be a displacement of manufacture—not a matter to be much considered."[2] But a displacement of manufacture is commonly a matter which *does* demand consideration, and a great deal of it. It is a mere chance if the workers "displaced" can find equally

[1] *Essays in Finance*, Second Series, p. 24.
[2] *Essays in Finance*, p. 244.

profitable employment in another direction; and the chances are against them. In the usual event there is an addition to the ranks of the Unemployed, with a fresh crowding of the Unskilled Labour market; to say nothing of much waste of capital and the ills attendant thereon. The most of the population and the capital "displaced" eventually settle down into other industrial grooves; but prosperity is not thereby enhanced, and the old level is not likely to be reached—much less maintained. For example, a community of "displaced" steel-workers which should take to match-making, would not find the change a particularly healthy one, and something of the kind is far more likely to be the result of a "displacement" than the birth and development of a new and equally profitable industry. Again, you are told that "no old country has progressed in a similar manner" to England.[1] But England's marvellous progress is an event of past, not (as Sir Robert Giffen would have you believe) of current, history. In all our industries you find a steady slowing-down: it is Germany which is in for the "marvellous progress" now. England made hers when and because she had command of the world's markets.

Finally, Sir Robert Giffen commits himself to the assertion that "in no country in the world has the foreign trade progressed so much" as in England; and, again, his reference is to the present. The short answer to this is to be found in certain official figures. Recent years have witnessed a world-wide depression in trade, and the exports of every country have gone down; but, whereas the exports of the United Kingdom declined 6 per cent. between '92 and '94, those of Germany went back but three, while in amount England's loss was four times greater than Germany's. It is fair to add that Sir Robert Giffen's book was published in '86, since when the tide of things has set steadily against his inferences.

[1] *Essays in Finance*, p. 250.

What Authorities Think.

Others take a saner, if a less cheerful, view of the situation than Sir Robert Giffen. They are men, too, whose opinions are not less entitled to respect than those of doctrinaire economists. I have already referred to the warnings which are being sent to us from our Continental Consulates. One or two extracts will be not amiss, exampling (as they do) the normal tenor of the Foreign Office Reports. Thus says Sir Charles Oppenheimer, in a Report dated 31st July, 1894, on the commercial relations of Germany with foreign countries—[1]

> The turn of mind altogether in Germany, which has come about with the growth of the commercial treaty policy, leads one to expect that the endeavours of the German industry to open up new fields for output in the world's market (which endeavours, too, are seconded by the Government), will in future be carried on with still greater zeal. The enthusiasm of the German industrial party at the conclusion of the Russo-German Commercial Treaty, which was quite inconsistent with the sober dry customs policy, may perhaps likewise be regarded as an expression of the increased feeling awakened within them of the need of expansion. It will be the task of the great industries of England, with a view to her extended commerce and her predominant position on the seas, to draw the lesson for her own mode of proceeding from the increased zeal and the facilitated condition of labour in the German industry . . . .
>
> As the rise of national industries in primitive countries, so likewise must be noted the increasing rivalry of Germany and other countries as exporters of industrial products. Germany, whose export from the very first had to reckon with the rise of national industries, and found, to a great extent, the markets filled with English goods, has introduced new tactics and artifices in her export, the success of which is an established fact, and which will also have to be adopted by the older English export houses if English industry is to compete on equal footing in foreign countries with their German rivals.

Thus, too, Mr. Martin Gosselin, writing from Berlin on German Colonisation—[2]

> I have endeavoured in the above report to give a summary, and, I fear, imperfect sketch of the progress made and the results attained by Germany in the development of her Colonial Empire during the

[1] *Foreign Office*, 1894, Miscellaneous Series, No. 340.
[2] *Foreign Office*, 1894, Miscellaneous Series, No. 346.

first ten years of its existence, a picture which must arrest the attention of the most careless observer, as showing what can be done by indomitable perseverance and patience with materials and in regions not always of the most promising description . . . . Between the Fatherland and the transmarine possessions lines of steamers are being established and developed, which, besides the transport of colonists and cargoes, have already made German influence felt in places where but a few years ago Germany was almost an unknown quantity. Telegraph and postal services are being organised and improved; German goods, German commercial travellers, and German inventions are now to be found all over the universe; her postal steamers visit Asia, Africa, America, and Australasia, her commercial marine is steadily increasing in number of ships and tonnage.

Here is another pregnant excerpt: it is from Mr. Rennell Rodd's report on trade in Egypt, dated February, 1896—[1]

Mr. Rodd speaks of a case where a travelling representative approached the German manager of a local firm which had recently obtained a large contract to execute, he was told that all orders were to be placed in Germany, and that no English need apply. Such instances, which might easily be multiplied, indicate how necessary it is for Englishmen to enter by all available means into direct communication with the consumer, who is indifferent to the nationality of his furnisher.

As It Was

There was a time when our industrial Empire was unchallenged. It was England which first emerged from the Small-Industry stage. She produced the Industrial Revolution about the middle of the last century, and well-nigh until the middle of this she developed her multitude of mills, and factories, and mines, and warehouses, undisturbed by war at home, and profiting by wars abroad. The great struggles which drained the energies of the Continental nations, sealed her industrial supremacy, and made her absolute mistress of the world-market. Thanks to them, she became the Universal Provider. English machinery, English pottery, English hardware, guns, and cutlery, English rails and bridge-work, English manufactures of well-nigh every kind formed the material of civilisation all over the globe. She covered the dry land

[1] *Foreign Office*, 1896, Miscellaneous Series, No. 391.

with a network of railways, and the seas were alive with her own ships freighted with her own merchandise. Between 1793 and 1815 the value of her exports had risen from £17,000,000 to £58,000,000. Her industrial dominion was immense, unquestioned, unprecedented in the history of the human race; and not unnaturally we have come to regard her rule as eternal. But careless self-confidence makes not for Empire. While she was throwing wide her gates to the world at large, her sisters were building barriers of protection against her; and, behind those barriers, and aided often by State subventions, during the middle and later years of the century, they have developed industries of their own. Of course, this was to a certain extent inevitable. England could not hope for an eternal monopoly of the world's manufactures; and industrial growths abroad do not of necessity sound the knell of her greatness. But she must discriminate in her equanimity. And most certainly she must discriminate against Germany. For Germany has entered into a deliberate and deadly rivalry with her, and is battling with might and main for the extinction of her supremacy.

In estimating England's industrial position, regard must also be had to her function as the world's middleman. Not only is she a manufacturer for other peoples: she is likewise their agent for distribution. There is scarce a nation —certainly not one of any importance—which does not come to England to buy goods sent in for sale from elsewhere. She sells those nations hams from her Colonies, coffee from Arabia, gloves from France, currants from Greece, cotton from America—in fact it would be hard to name an article produced abroad which is not on sale in those universal market-places, the Mersey and the Thames. In this retail business, also, the Germans are setting themselves to beat us; and South Americans are already buying their Irish linen through Hamburg houses. If there be an advance in this form of competition on the

part of Germany, we shall lose the little benefit accruing from the German export trade; for in all other respects it is wholly baneful to us.

The German Revolution

Up to a couple of decades ago, Germany was an agricultural State. Her manufactures were few and unimportant; her industrial capital was small; her export trade was too insignificant to merit the attention of the official statistician; she imported largely for her own consumption. Now she has changed all that. Her youth has crowded into English houses, has wormed its way into English manufacturing secrets, and has enriched her establishments with the knowledge thus purloined. She has educated her people in a fashion which has made it in some branches of industry the superior, and in most the equal of the English. Her capitalists have been content with a simple style, which has enabled them to dispense with big immediate profits, and to feed their capital.[1] They have toiled at their desks, and made their sons do likewise; they have kept a strict controlling hand on all the strings of their businesses; they have obtained State aid in several ways—as special rates to shipping ports; they have insinuated themselves into every part of the world—civilised, barbarian, savage—learning the languages, and patiently studying the wants and tastes of the several peoples. Not content with reaping the advantages of British colonisation—this was accomplished with alarming facility—Germany has "protected" the simple savage on her own account, and the Imperial Eagle now floats on the breezes of the South Sea Islands, and droops in the thick air of the African littoral.

[1] For example, one Rhenish ironworks makes it a rule, whatever its profits, not to pay a higher dividend than 5 per cent. The rest goes into a reserve fund, and a fund for the purchase of fresh and improved plant and machinery.

Her diplomatists have negotiated innumerable commercial treaties. The population of her cities has been increasing in a manner not unworthy of England in the Thirties and Forties. Like England, too, she is draining her rural districts for the massing of her children in huge factory towns. Her yards (as well as those of England) too, are ringing with the sound of hammers upon ships being builded for the transport of German merchandise. Her agents and travellers swarm through Russia, and wherever else there is a chance of trade on any terms—are even supplying the foreigner with German goods *at a loss*, that they may achieve their purpose in the end. In a word, an industrial development, unparalleled, save in England a century ago, is now her portion. A gigantic commercial State is arising to menace our prosperity, and contend with us for the trade of the world. It is true that this mad rush towards industrialism does not meet with universal approval; and the Agrarian Party is energetic in its denunciation of the ruin wrought thereby to Germany as an agricultural State. But its protests have nothing availed it yet, nor are ever likely to avail it anything.

Made in Germany

The phrase is fluent in the mouth: how universally appropriate it is, probably no one who has not made a special study of the matter is aware. Take observations, Gentle Reader, in your own surroundings: the mental exercise is recommended as an antidote to that form of self-sufficiency which our candid friends regard as indigenous to the British climate. Your investigations will work out somewhat in this fashion. You will find that the material of some of your own clothes was probably woven in Germany. Still more probable is it that some of your wife's garments are German importations; while it is practically beyond a doubt that the magnificent mantles and jackets wherein her maids array themselves on their Sundays out are

German-made and German-sold, for only so could they be done at the figure. Your governess's *fiancé* is a clerk in the City; but he also was made in Germany. The toys, and the dolls, and the fairy books which your children maltreat in the nursery are made in Germany: nay, the material of your favourite (patriotic) newspaper had the same birthplace as like as not. Roam the house over, and the fateful mark will greet you at every turn, from the piano in your drawing-room to the mug on your kitchen dresser, blazoned though it be with the legend, *A Present from Margate.* Descend to your domestic depths, and you shall find your very drain-pipes German made. You pick out of the grate the paper wrappings from a book consignment, and they also are "Made in Germany." You stuff them into the fire, and reflect that the poker in your hand was forged in Germany. As you rise from your hearthrug you knock over an ornament on your mantlepiece; picking up the pieces you read, on the bit that formed the base, "Manufactured in Germany." And you jot your dismal reflections down with a pencil that was made in Germany. At midnight your wife comes home from an opera which was made in Germany, has been here enacted by singers and conductor and players made in Germany, with the aid of instruments and sheets of music made in Germany. You go to bed, and glare wrathfully at a text on the wall; it is illuminated with an English village church, and it was "Printed in Germany." If you are imaginative and dyspeptic, you drop off to sleep only to dream that St. Peter (with a duly stamped halo round his head and a bunch of keys from the Rhineland) has refused you admission into Paradise, because you bear not the Mark of the Beast upon your forehead, and are not of German make. But you console yourself with the thought that it was only a Bierhaus Paradise any way; and you are awakened in the morning by the sonorous brass of a German band.

Is the picture exaggerated? Bear with me, while I tabulate a few figures from the Official Returns of Her Majesty's Custom House, where, at any rate, fancy and exaggeration have no play. In '95 Germany sent us linen manufactures to the value of £91,257; cotton manufactures to the value of £536,471; embroidery and needlework to the value of £11,309; leather gloves to the value of £27,934 (six times the amount imported six years earlier); and woollen manufactures to the value of £1,016,694. Despite the exceeding cheapness of toys, the value of German-made playthings for English nurseries amounted, in '95, to £459,944. In the same year she sent us books to the value of £37,218, and paper to the value of £586,835. For musical instruments we paid her as much as £563,018; for china and earthenware £216,876; for prints, engravings, and photographs, £111,825. This recital of the moneys which *in one year* have come out of John Bull's pocket for the purchase of his German-made household goods is, I submit disproof enough of any charge of alarmism. For these articles, it must be remembered, are not like oranges and guano. They are not products which we must either import or lack:—*they all belong to the category of English manufactures*, the most important of them, indeed, being articles in the preparation of which Great Britain is held pre-eminent. The total value of manufactured goods imported into the United Kingdom by Germany rose from £16,629,987 in '83 to £21,632,614 in '93: an increase of 30·08 per cent.

A few figures more. I said that a little while since Germany was a large importer of manufactures needed for her own consumption. Take as a first example, the iron and steel industries. In '78 the make of pig-iron in Germany was 2,147,000 tons; in '95 it was 5,788,000 tons. Germany made in '78 492,512 tons of steel; in '94 3,617,000 tons. Her import and export statistics tell the same tale. In '80 her iron exports only totalled 1,301,000

tons; in '94 they stood at 2,008,000 tons. (In the same period England's exports of iron had decreased.) In the matter of cottons Germany exported 14,666,100 kilogs. in '83; in '93, 33,350,800 kilogs., an increase of more than 127 per cent. (England's increase in the same period was only about $2\frac{1}{2}$ per cent.) Shipping returns are a pretty sure test of commercial prosperity: it is therefore significant that in '93 the total tonnage of the sea-going ships which touched at Hamburg for the first time left Liverpool behind, and in '94 Hamburg cut her record of the year before.[1]

The German as Diplomatist

In speaking of German methods and successes, I mentioned commercial diplomacy. It is a subject worth considering. Commercial Treaties were the "note" of Count Caprivi's policy: they were his substitute for the rigorous Protection of the Bismarckian "regiment." The Tariff Treaty with Russia, which practically completes the series, is also the most important. Russia is a large exporter of agricultural produce to her good neighbour, who returns her manufactures. Up to a few years ago the Protective Duties on both sides were fairly heavy; but in the early Nineties the Russian duties showed a tendency to increase at an alarming rate. Germany reciprocated; and a Tariff War set in, which threatened to destroy the commerce between the two countries.

On the 1st of June, '93, Russia resolved on the introduction of a twofold tariff rate. There were costly reprisals, and by August an acute stage was reached. Consternation reigned in many German factories, where stocks of goods for the Russian market were held back, because of the prohibitive Tariff. But negotiations between the two Governments were afoot, and in the February of

[1] *Hamburg Consul-General's Report*, Foreign Office, 1895. *Annual Series*, No. 1623.

'94 an agreement was concluded, whereby very large reductions were made in the duties on imported goods. The Russian duty on hops, for example, was reduced 65 per cent., that on coal and coke 50 per cent. (as was that on electric cables); while on dynamo-electric machines it fell from 4 r. 80 c. to 1 r. 40 c. Still more remarkable is the case of collars, cuffs, and shirt-fronts made of cotton-covered paper, the duty on which was brought from 72 r. down to 2 r. 40 c. per poud. Velvet plushes were reduced from 7 r. 50 c. to 3 r., and silk and half-silk umbrellas from 1 r. to 30 c. And so on almost through all the list of manufactures. One exception, however, is worth noting: the 35 c. duty on raw iron was reduced by 5 c. only. A further reduction was proposed, but the German Government said it was not wanted, inasmuch as to lower the tariff would be to profit England, who would come into the arrangement under her Favoured Nation clause. These reductions are to the last degree helpful to, and are highly appreciated by, industrial Germany; but it is said that she sets still greater store by the security and solidity bred by a ten years' Treaty. Another effect of the Treaty is to equalise the duties on imports entering Russia by sea with imports entering Russia by land: which is another change to England's hurt. Germany now holds the field, in fact, and it will be no fault of hers if England be not ousted bag and baggage.

A further outlet has been secured in the Promised Land across the Atlantic, where the Chicago Exhibition fired the German genius to a white heat. The Imperial Government has supplemented the efforts of private traders by attaching a Commercial Agent to the Consulate-General at Chicago. This gentleman, who is the author of a book on *The Promotion of the German Export Trade to the United States*, has been instructed to keep his countrymen informed of the conditions of commerce and the market, and to direct their attention to new openings for German trade;

also to direct the attention of American commercial houses to the advantages of business with Germany. In the first year of his appointment he got into direct relations with over eight hundred firms and associations, and did his utmost to submit in person the catalogues and samples sent him from home. He has likewise been instructed to recommend trustworthy agents, and to furnish information respecting the standing amd repute of particular American firms and the nature of American methods and processes. He has extended the sphere of his usefulness by re-visiting his native country and lecturing to its people on the several ways and directions in which they may increase their trade with the United States. The German Government has sent out another gentleman to the Argentine to report on commerce there. He had already done similar duty in New Guinea.

Germany has been equally fortunate in her diplomacy with England. By the treaty of the 30th May, 1865, England abdicated the power to enter into such fiscal arrangements with her own colonies as would enable the colonies to discriminate in the tariffs they charge between goods coming from the Mother Country and from Germany. Belgium, three years earlier, got England to sign a similar treaty. The irony of the thing is to be found in the fact that Belgium and Germany are the two countries which, since the date of the treaties, have most effectually competed with England for the trade in English colonies! The colonies have since been wondering why their mother was such a fool.

German Trade with other Countries

As with Great Britain so with the other nations of the world, and with some to a still greater extent. I have already referred to German relations with Russia. In iron, iron goods, and machinery, German exports to the latter country amounted in '93 to 505,881 met. centners,

and to 1,568,002 met. centners in '94. The figures for '95 will show a yet more startling growth. In contrast is England's lapse from 161,413 tons in '93 to 138,318 tons in '94. Again, in '94, Germany exported to Russia fine leather to almost double the amount she sent in '93, and paper goods to more than double. Passing from East to West, you find a growing trade between Germany and the United States. From 175,721,000 marks in '84 the value of the exports increased to 288,669,000 marks in '94; and as this was with falling prices, the actual quantities of goods would show a yet greater difference. The largest exports, it is important to note, were of half-silk goods, cotton hosiery, and woollen cloths; for in these articles Germany is in especial competition with ourselves. The English Minister at Dresden has commented in an official despatch on the remarkable increase of trade between Saxony and the United States.[1] The Saxon exports to North America for the year ending June '95 were 60 per cent. greater in value than those of the preceding year. Canada in like manner, notwithstanding the protests of her statesmen that they desire above all things to deal with England, is transferring her shopping to Germany. It was officially reported to the Reichstag in March, '95, that this trade had increased tenfold in the last few years, and a *Consul de Carrière* has been regularly appointed to look after it. In South America German merchants are making a peculiar effort; and in '94 the exports to Brazil, valued at 16,223,000 marks in '84, were valued at 63,577,000 marks. Passing from West to East: German trade with Japan has made such gigantic strides that the English Consul-General at Frankfort devotes some pages of his Annual Report to it. Here is an extract: "In the year 1869 the value of Germany's direct exports to Japan did not amount to 1,000,000 marks. In 1888, however, it rose from 5,000,000 to 18,000,000

[1] *Board of Trade Journal*, March, 1895, p. 332.

marks; in 1891 it again sank to 14,300,000 marks, to rise again in 1892 to 17,100,000 marks, and in 1893 to 18,500,000 marks."[1] In'95 it was over twenty-six and a half million marks, an increase of 55 per cent. on '94; England's increase in the same period being less than 10 per cent. And now Germany is preparing a Commercial Treaty with Japan on which she founds great hopes. Even in Egypt, where it might be presumed that England's commercial influence would be paramount, the Germans are encroaching formidably, the value of their exports having mounted from 2,266,000 marks in '80 to 7,143,000 marks in '94. These are the statistical values; the actual figures are probably higher.[2] Of Bulgaria *The Board of Trade Journal* relates[3] that "the efforts shown by the Germans to secure the largest possible market would appear to be crowned with success." This is well within the truth: Germany has already given us a handsome beating; for, whereas in '85 Bulgaria took German goods to the value of 2,082,000 lew,[4] in '93 she took them to the value of 12,060,000 lew. In '84 German exports to Australasia were valued at 6,315,000 marks; in '93 they amounted to 17,963,000. To give a single detail: four-fifths of the musical instruments imported to these colonies are "Made in Germany." Let me cite the Transvaal as a final instance. Some people just now are evincing a disposition to minimize German influence in that Republic; let them digest this. During the years 1891 to 1892 the exportation of the German Customs Union to the South African Republic had reached an average value of no more than 72,000*l.* In 1893 it rose to 192,000*l.*; in 1894 to 288,000*l.*; and in 1895 to about 336,000*l.*

[1] *Foreign Office*, 1895. *Annual Series*, No. 1586.
[2] *Frankfort Consul-General's Report, Foreign Office. Annual Series*, 1894. No. 340, p. 12.
[3] February, 1895, p. 214.
[4] There are 25 lew to the English pound sterling.

The Significance of these Facts

These are the sober—to believers in our eternal rule, the sobering—facts. They are picked almost at random from a mass of others of like import, and I think they are sufficient to prove that my general statements are neither untrue nor unduly emphatic. And yet the data needed for the purpose of showing the parlous condition into which our trade is drifting are still largely to seek. Germany is yet in her industrial infancy; and the healthiest infant can do but poor battle against a grown man. England, with her enormous capital, and the sway she has wielded for a century over the world-market, is as that strong man. Now, to tell a strong man, conscious of his strength to an over-weening degree, that he is in peril from a half-grown youngster, is to invite his derision; and yet if a strong man, as the years advance on him, neglect himself and abuse his strength, he may fall before an energetic stripling. Germany has already put our trade in a bad way; but the worst lies in the future, and it is hard to convince the average Englishman of this. He will admit that Germany's trade has increased, and that at many points it hits our own; but here his robust insularity asserts itself. Germany has not the capital, he will tell you; her workmen are no workmen at all; her capitalists and her managers are poor bureaucratic plodders; the world will soon find out that her products are not of English make, and so forth. And he goes on vocalising *Rule Britannia* in his best commercial prose.

Now, though much can be set down in plain figures, which serve not only to mark the distance already traversed, but also to indicate the Whither we are nearing, there remains much more which cannot be tabulated with arithmetical conciseness. The student has to content himself with hints, and (as Walt Whitman

would say) "indirections"; and the further he surveys the field the more numerous do these finger-posts and danger-signals appear. It is impossible as yet to estimate the perils to which our commerce is exposed. For example, it is affirmed that the operation of the Merchandise Marks Act is to a certain extent damaging to many branches of English trade. Yet, in spite of diligent efforts, the data necessary to a knowledge of the extent of the damage have eluded those who have sought for them.

Similarly elusive are calculations as to the exact bearings of the excess of imports over exports. The disparity has now existed for a number of years, and, instead of showing a disposition to right itself, the returns are still worse reading than of old. (In '95 the difference amounted to more than £190,000,000.) One may, of course, make too much of the fact: because, as Sir Robert Giffen has pointed out, our immense shipping business entitles us to a corresponding amount of imported goods in payment for the carrying work we do. But Sir Robert goes, I venture to submit, too far on his cheerful way when he says that all is well. Our carrying and commission trades do not bring in sufficient income to balance the disparity between exports and imports. It has been averred that the existence of a deficit implies that we are living on our capital. This Sir Robert denies. In one point of view, no doubt, he is right. We are still a lending rather than a borrowing nation, and he contends that we are only expending our interest from foreign investments. Granting that this is so—(it is practically impossible to get figures on the point)—the question must yet be asked: Can we afford thus to spend *all* our income in foreign shops? Ought we not to be adding a good portion of it to our capital, in order to retain our position as the wealthiest nation? A man with a thousand pounds is a rich man, as long as none of his neighbours have more than a hundred; but if *they* increase their possessions to ten thousand

a-piece, *his* thousand spells poverty. If, then, he would maintain his position he must increase his wealth. Now, other industrial States (notably Germany) are adding year by year to their capital. No: this excess of our imports is *not* a healthy sign.[1]

What it Means to Us

According to Sir Robert Giffen, it doesn't mean much: if we lose ground in one industry, we make up for it by increased production in another. The worst of this comfortable theory is that a very simple test knocks it to pieces. Those very statistics with which Sir Robert is so well acquainted prove that this assumption of a correlative gain is a figment. In '72 the total declared value of British and Irish produce exported from the United Kingdom was £256,257,347; in '95 it had sunk to £226,169,174; and in the meantime the population of Great Britain and Ireland had grown from 31,835,757 to 39,134,166. In the meantime, also, the world's consumption of European manufactures had hugely increased. Not only is the demand greater: owing to the introduction of fresh labour-saving machinery, and other appliances and discoveries, the capacity for production has been largely augmented. The market is bigger, the ability to supply the market is greater; but, whereas the proportion per head of exported British produce was £8 1*s.* 0*d.* in '72, it had sunk to £5 11*s.* 3*d.* in '94. This is what foreign competition means to us. It means, too, as a deduction from these figures, that that gaunt skeleton in our industrial cupboard which is called the Unemployed, presents a problem like to grow ever more acute and ever less easy of solution. And it means that the work which we have is less profitable than here-

[1] It is worthy of note that while the total imports into England declined in value by £22,000,000 between '83 and '93, the imports of *manufactured* articles increased by over £13,000,000.

tofore: for the first result of competition is the cutting of prices. The market is glutted with goods from the new Continental factories, and prices go unalterably down. Thus, in '65 the average price of cotton piece goods was 5·05*d.* per yard: in '94 it was 2*d.* Printed linens also have declined from 9·21*d.* per yard in '65 to 5·37*d.* in '94. Galvanised iron has receded from £25·04 per ton in '65 to £11·49 in '94. It is everywhere the same: each year the output has to be greater, the strain more intense to achieve the same return; and it is no wonder that the nation is falling more and more a prey to neurotic diseases. Some people may be able to regard all this with cheerfulness; but the attitude is rather a tribute to their buoyancy of temperament than to their common sense. For the rest of us, the prospect is discouraging. We have seen agriculture (our old-time staple industry, before we went after the strange gods of Machinery) hopelessly depressed, and as little able to save us as the faded deities of Rome the falling Empire. Now we see our new gods deserting us for other nations. Industrial depression has of late years been the rule, instead of the exception. Our population is still waxing, and our means of providing it with an income are dwindling. Is it not time to look things squarely in the face?

To attempt to do so is my present purpose. I hold no brief for any doctrine or remedy: these papers are not prompted by the Bimetallic League nor by devotion to Fair Trade, nor by any of the economic schemes and doctrines which reformers are propounding for the cure of our commercial dry-rot. It is my object to proceed on scientific lines: to collect and arrange the facts so that they may clearly show forth the causes, and point with inevitableness to the remedies, if and where there be any. In this preliminary survey I have but indicated certain leading facts, and have striven carefully to eschew the

discussion of causes or cures. Afterwards, I propose to go into detail respecting the position of those trades which are feeling worst the impact of the German wedge. It will then be proper to discuss why the German beats us, and what we must do to be saved.

II

IRON AND STEEL

The Doctor's Little Joke

"We may not refuse to acknowledge—it were indeed ungrateful to pass over in silence before our English guests—the fact that by far the greater number of important inventions and improvements in the manufacture of iron have proceeded from Great Britain; but you, our English visitors, will also acknowledge, as soon as you shall have learned to know our iron industry, that on the other hand the Germans have known how to adapt that which they have received from you to their local circumstances with advantage, and to develop it in a way peculiar to themselves."

Thus Dr. Hermann Wedding, of Berlin, the occasion being the visit of the English Iron and Steel Institute to Düsseldorf in August, '80. The Doctor's tongue was in his cheek, yet the irony of his remarks was apparently lost on his English hearers, for history records no comment in reply from any one of them: only that they proceeded with discussions on Dephosphorization, the relative merits of an open hearth and a Bessemer converter, and other cryptics of their craft. And when the time of feasting, and talk, and sight-seeing was over, they returned to their native land, and then, in the fulness of time, they perused the fatuous reports of the British Iron Trade Association, which bade them sleep on, sleep ever. And they did as they were bid, until the other day, when they awoke to the fact that their trade was gone.

The World's Ironmaster

This is not the place for a disquisition on the Iron Industry as practised by our prehistoric forefathers : albeit the trade is ancient enough to yield the matter of many volumes. Nor will it profit us to analyse the swordsmith's methods in the British and Roman eras, nor the progress of his art through the Middle Ages. Suffice to say that for centuries past we Britons have been noted for our proficiency in the manufacture of iron, wherein we had made our mark among nations—ever we had begun to handle coals, and whilst our smelting was done with the charcoal-burner's aid. Dud Dudley, one of the fathers of English iron—he might, indeed, be styled its Patriarch—tells of 20,000 smiths who settled in one locality of England for the prosecution of what was then a true craft. This notwithstanding, it was marked out by Fate to be the first to show forth the power and glory of the Great Industry ; to Dudley himself, a hundred years before the birth of the Industrial Revolution, it was reserved (in 1665), to herald the new order with the publication of his *Metallum Martis.* Dudley's chief practical contribution to the work consisted in the introduction of pit coal for smelting, whereby, as he proudly tells, he made seven tons of pig-iron per week in his own furnace. Mr. Daniel Jones, Secretary to the South Staffordshire Ironmasters' Association, in a paper read to the Iron and Steel Institute Congress at Birmingham in '95, appears to favour 1730—when coke began to be used in the blast furnace—as the starting-point of England's true pre-eminence. Be this as it may, by the time that Watt's steam engine, and Cort's grooved rolls (1783), and Joseph Hall's introduction of the boiling process in puddling furnaces (1811), and Neilson's great discovery of the hot blast (1828)—to name a few epoch-making innovations—had become integral factors in production and manufacture, Britain had won her supremacy,

and was ready to take full advantage of the crowning triumph of the Basic Steel process (1878). She was rich in ore, and her ironmasters had learned how best to deal with it, and to work the extract into manufactures; and in '82 we touched our high-water mark. For in that year our total production of pig-iron stood at 8,493,287 tons; of puddled bar, at 2,841,534; and of Bessemer steel rails, at 1,235,785 tons. We were the ironmasters of the world —an easy first in every branch of production.

Ichabod!

And now all that is changed. The world's consumption is greater than ever before, yet our contribution in the years since '82 has dropped at a rate well-nigh unknown in the history of any trade in any land. From the 8,493,287 tons of '82, pig-iron has gone hustling down to the 7,364,745 tons of '94. In '94 the 2,841,534 tons of puddled bar of '82 is represented by 1,339,062; the 1,235,785 tons of Bessemer steel rails by 598,530. (In '93 they had touched a still lower point.) Steel has largely taken the place of iron. To say nothing of the consumer, it is much more profitable to the producer, inasmuch as its manufacture needs only about a fourth the fuel which is used in that of finished iron, with less than half the labour. But little comfort is to be drawn from the modern preference for it. Rails began to go down in '83, and since '90 other manufactures have taken the downward road of the older industries. In '89 we produced 2,140,000 tons of Bessemer steel ingots; in '94 only 1,535,364. The Export Returns tell a similar tale. In '82 4,353,552 tons of iron and steel, partly or wholly manufactured, left the United Kingdom; in '94 the total reached was only 2,649,998. The production of ores, too, has declined from over eighteen million tons in '80 to twelve and a third million in '94. The case of comparative, as opposed to absolute, production,

is even worse; but as we shall see, neither Belgium nor Germany (to name our leading competitors) has passed her zenith, nor shows the slightest signs of having neared it.

To turn from quantities to values is to have no better reason for satisfaction. Prices have started to go down, and are ever in that melancholy way.[1] Let us compare the present prices and those of twenty years ago. In '65 old iron fetched £4·25 per ton; in '94 £2·66. In that year pig-iron and puddled bar sold at 58·41*s.* per ton; in '94 at 46·04*s.* For bar, angle, bolt, and rod £8·65 per ton was paid in '65; in '95 £6·38. Railroad iron has fallen in thirty years from £8·18 per ton to £4·43; wire, from £19·64 per ton to £17·90; sheets and plates, from £12·38 to £9·13; galvanised iron, from £25·04 to £11·49; hoops, from £10·23 to £6·68; tinned plates, from £23·61 to £12·26; cast or wrought iron, from £15·23 to £12·91. With steel the "decline and fall off" are still worse. In '65 the ruling price for steel manufactures is £68·62 per ton; by '94 it has run down to £26·69. Improved processes account for some of this—especially in steel; but to this there is a set-off due to higher rents and wages, which have increased the cost of production in all industries; and labour-saving inventions do not account for anything like the differences in price. *Their* explanation lies in the cut-throat conditions developed by competition.

The wrecking has not gone on evenly throughout the Kingdom, but has been done to a great extent in sections, the Black Country furnishing the most conspicuous instance. Between 1796 and 1871 the number of South Staffordshire's blast furnaces increased from 14 to 163. In the latter year

[1] The gentleman who contributed an article to the *Iron and Coal Trades Review* on the part of this chapter which appeared in the *New Review* poured scorn on my reference to prices. He said I got them from the Board of Trade Returns, which was quite true; and that they were there represented as *values*, and not prices, which is quite untrue; and he drew a distinction which was quite unnecessary, and in the circumstances altogether foolish.

she attained her zenith. Her decline since then has been practically continuous: till, in June, '95, the number of furnaces in blast stood at 19! True, we must deduct a certain something from these figures as they stand in their startling nakedness; for, whereas the annual output per furnace was 6,720 tons in '71, it was 14,360 tons in '94; and a further allowance must be made for the supersession of iron by steel, which is also manufactured in this district. But even so, the net fall is tremendous: the total output of iron in '71 being 725,716 tons, whilst in '94 it was only 315,924; and yet there is every reason why the South Staffordshire iron trade should continue to flourish, and that apart from the foreign market (whose demand is greater than in former years). The home market—especially that part of it which is comprised in the immediate neighbourhood—still requires enormous quantities of iron and steel, and the district is particularly fortunate in the number of its allied trades. Mr. Daniel Jones has compiled a list of no less than seventy; and he calls it only a list "of some of the allied trades"—all of them, from anchor and art-metal works to wire-rope and vice and anvil makers, extensive customers of the iron-founder. An unfortunate result of this piecemeal disintegration of the trade is that the districts, which are not at the moment affected, are apt to be blinded to the change, or to miss its significance; while the complaints of those affected are treated as merely an effect of local misfortunes, contingent on a slight geographical alteration of the industry. It is needful, therefore, to point out the general character of the *débâcle*. "*Débâcle*" may be objected to as excessive, and my assertion that the trade "has gone" may be controverted as an exaggeration in view of the bulk to which the English output still attains. But the comparative examination of our manufacture and that of other countries will prove that my words do not exceed the bounds of truthfulness and moderation.

The Current Revival

The recent expansion of trade is another pitfall for the unwary optimist; it prompts him to the belief that the late decline was only a temporary depression, which is already being put right. Now undoubtedly the revival of '95 has beneficially affected the iron and steel, as well as other, industries, and that year's returns show an improvement on '94. But the consolation to be derived therefrom is subject to heavy discount. In the first place, there is no sign that this revival will be of sufficient extent to bring us back to the level of '82 or even of '89; while the plane from which it started was the lowest yet touched. Secondly, our competitors are feeling the expansion to a much greater extent than ourselves. And, thirdly, these spasmodic revivals are inevitably, and quickly, followed by a revulsion to bad times. The temporary brightness stimulates over-production; manufacturers put on their rose-coloured spectacles: and when they take them off, to rub their eyes and view the reality of things, they are lucky if they do not find their last state worse than their first. Signs of over-production are even now apparent. According to published returns of the make of pig-iron for the first half of '95, the increase over the first half of '94 is only from 3,708,270 to 3,721,870 tons—a mere trifle, and accounted for chiefly by Scotland's enlarged output. Lancashire, West Cumberland, South Staffordshire, South and West Yorkshire, &c., showing actual and large decreases. There was also on the 30th of June, '95, a net increase of 311,210 tons in the stocks of pig-iron on the record for the same date of '94: which is not a matter for gratification. It contrasts ominously, too, with the reports in the trade journals from Germany—as that: "The current consumptive demands can be barely supplied"; or, "The blast furnaces are working at their full capacity on current contracts, and nothing has to be sent into store"—which have occurred with regularity and

frequency in recent months. But even in the midst of the genial influences we hear stories of damped furnaces and closed works which must disconcert such optimists as deign to hear them. Our daily papers have been sandwiching their pæans of joy over the cheerful Board of Trade Returns with such paragraphs as this :—

> The Barrow Steel Works, employing about 3,000 men, have been closed, owing to scarcity of orders, and to the unremunerative prices of what orders were forthcoming. The Duke of Devonshire recently reduced royalty rents, and a reduction was made in railway rates, but not sufficient to enable the concern to be worked at a profit.

Or this :—

> The tinplate trade in this district [South Wales] is in a most deplorable state. . . . . Manufacturers are unable to carry on their works, and about 150 mills are idle.

Taking the country generally, you find that of its 103 Bessemer converters, 43 were altogether unemployed during the first half of '95 ; and it is estimated that not more than six were worked to full capacity.[1] The returns for the 1st November, '95, show 347 furnaces in blast, and 334 out of it. If the number of furnaces damped down or dismantled of late had been included in the returns, the figures would read still worse.

Our Neighbour the Belgian

England's supremacy, even when it was least dubitable, was not unchallenged. One country, small in area, but rich in raw material and commercial activity—Belgium to wit—has long meant business. She claims, indeed, by the mouth of M. Julien Deby,[2] to be well-nigh as old-established a firm as ourselves; and no doubt M. Deby was speaking by the book when he declared that, in 1560, his native country had 35 blast furnaces and 85 forges at work. In 1800 "twelve tons of excellent iron" were

[1] *Iron and Coal Trades Review*, 22nd November, '95.
[2] *Iron and Steel Institute Journal*, '73 : "Rise and Progress of Iron and Steel Industries in Belgium."

made with coke alone, and each year saw the production, steadily increased, of many tons of iron, excellent or otherwise. 1800 was also the year of the circular blast furnace, taller than any hitherto constructed, and equal to an output (considered enormous) of 3 tons per day. In '21 Belgium put up her first puddling furnace, and by '48 she was sending iron to such near neighbours as France, Germany, and Holland. Twenty years later a far larger *clientèle* had been tapped, and Belgian rails were being exported to America, Turkey, Egypt, Cuba, Rio, Chili, and (as in flagrant challenge) England. Of Belgian iron we bought 11,630 tons in '68. It was about this time that Belgium set herself in earnest to the manufacture of steel. Whereas in '61 her whole output was only 2,675 tons, eleven years later the province of Liége alone turned out 15,284 tons, or twice the amount of the previous year! To economise detail: in '93 the Belgian output of foundry-pig, forge, and Bessemer-pig, was 745,264 metric tons; of finished iron, rails, and plates, 113,602 metric tons; of steel ingots, &c., 273,113 tons; of rails, plates, &c., 224,922 tons. And big as the increase was, it represents no culminating effort, as an examination of the next year's figures shows. In '94 foundry-pig, forge, and Bessemer-pig-iron went up to 810,940 metric tons—an increase over '93 of 8·81 per cent. (including a reduction in forge-iron); finished iron, rails, and plates to 122,474 metric tons—an increase of 7·81 per cent.; steel ingots, &c., reached 396,914 metric tons—an increase of 31·20 per cent.; and steel rails, plates, &c., rose to 314,776 metric tons—a percentage increase of 53·49.[1]

There is an impression current that, except in the production of rails, Belgium cuts but a very poor figure in the steel-making world. It needs correction. True,

[1] The rise was continued in '95, when 816,040 tons of pig iron were made; and there were slight increases over '94 in the production of manufactured iron goods, while both cast and wrought steel show advances of about 50,000 tons each.

steel rails are at present her specialty; but, as my figures prove, she is making great strides in other departments, particularly in the manufacture of light girders. It is stated that "every pound of the iron roof of the large railway station in Middlesborough is made of Belgian iron" [1] —in Middlesborough, one of the chief centres of our iron trade. In fact, her present position in the joint trades was tersely (and accurately) summed up by Professor A. Gillon, in a paper read before the Iron and Steel Institute at its meeting in Belgium ('94).[2] "Nearly as much wrought iron is made in Belgium as there was ten years ago, and the production of steel has increased some 50 per cent.," and the Professor dotted the i's in the statement by remarking elsewhere in the same paper: "From the commercial aspect, the situation of our blast furnaces is satisfactory, and prices are remunerative." As regards the future, M. Gillon's attitude is one of chastened hope. He loyally testifies to "the exceeding foresight and the sustained energy of our King" in the matter of that "invaluable outlet," the Congo Free State, which "already requires a noteworthy quantity of metals from our country"; and he boldly prophesies that "Belgian commerce has not yet made its last efforts to spread itself over the world. But he is fearful of the Fatherland:—"German competition, especially, thanks to its protected home market, can afford, without incurring loss, such decreases in price as to reduce our industries to difficult straits." And he adds:—"In Great Britain and in Belgium similar conditions are found in several respects. Their exterior commerce endures the same attacks from the same causes."

Which leads me to a consideration of iron and steel in Germany.

[1] Letter of Mr. H. Simon, of Manchester, quoted in *Iron and Coal Trades Review*, 31st January, 1896.

[2] *Iron and Steel Institute Journal*, 94, No. II, p. 7: "The Iron and Steel Industries of Belgium."

Our Neighbour the German.

Few nations on the earth's surface but are in some sort ironmakers (even the African savage has his forge), so that German professors with a turn for research can prove without difficulty that iron was produced and manufactured in Germany many centuries before it began to figure in the Kaiser's Export Returns. Did not the mighty Siegfried, in those far-off days when Wotan ruled in Walhalla, forge his own invincible sword—in that very Rhineland, too, now blackening with furnace-reek and the waste of collieries? Yet, if we come down to Christian times, we shall find the Germans, in the opening period of the iron-trade's development, a good century behind ourselves. True, they claim to have invented in 1500 the charcoal blast-furnace, which was not known to us till 1534; but that was long ere the birth of the modern industry; and, as matter of fact, they did not erect their first coke blast-furnace until 1796, whereas England had begun to experiment with this all-important invention one hundred and eighty-five years before then, and had been successfully working coke furnaces for seventy-four years ere the first was set going in Upper Silesia. But a history of iron in Germany is not possible in this place; so I shall content myself with calling attention to a rather important fact which may be gleaned from the study of it:—that the Germans proved themselves slow to invent, but—having once addressed themselves in earnest to the work—extremely quick to profit by the inventions of other nations, particularly the English. This fact comes also to the front in the history of other German industries, and in due course we shall note its import. For the present, and as regards the iron and steel trades, let it be borne in mind in connexion with the rapid advance from insignificance achieved by the Germans in the middle years of the Nineteenth Century. Of late the pace has quickened marvellously. Dr. Wedding has collected statistics relating

to Prussia between '37 and '79,[1] which in pig-iron show an advance from 90,500 tons in the former year to 1,639,676 tons in the latter; of castings from 6,896 to 304,612 tons; and of malleable iron from 74,348 to 1,477,116 tons. Yet '79, so far from being a culmination, is usually, and more properly, regarded as the beginning of an era in the manufacturing development of Germany! Speaking of foundry-pig-iron, Herr C. Müller points out[2]: that it was "the imposition of Protective Duties in Germany in '79 that led to an important improvement of the position, both output and consumption increasing largely in Germany, while the imports from other countries were diminished."

Protection, however, was not the sole impelling force. About this time there were introduced those Dephosphorizing Processes which enabled the German to make use of the low-grade and cheap phosphoric ores of the Moselle, Lorraine, and Luxembourg (up to this date useless for the production of Bessemer-pig-iron), and relieved him of his dependence on the dearer ores of Bilbao and elsewhere. The fields thus opened were large and were easy of access; and the introduction of the Basic Process had such a stimulating effect on the German steel manufacture that the total production rose from 489,000 tons in '78 to 1,074,000 in '82. In another ten years even that output was more than doubled; in '93 it was 3,162,000 tons, and in '94 it was 3,617,000. The following table states concisely the all-round triumph of recent years:—

——	'86.	'91.	'92.	'93.	'94.	'95.
	tons.	tons.	tons.	tons.	tons.	tons.
Pig-iron ...	3,529,000	4,641,000	4,937,000	4,986,000	5,380,000	5,788,000
Half-finished and Finished Iron and Steel	3,496,000	5,064,000	5,131,000	5,387,000	5,825,000	—

[1] *Iron and Steel Institute Journal*, '80: "The Iron Industry of Germany."

[2] *Stahl und Eisen*, vol. xv, pp. 140 to 146.

Thus we cannot (as in our own case we can) name any year as a culmination of German prosperity. The historian of English iron tells a marvellous tale of progress ; but he must perforce, having reached a highest point, proceed to a decline and fall. In Germany the history is still at the first chapter. Yet '94 in Germany might very well serve the annalist for the starting-place of a new section. For it was in that year that for the first time exports exceeded imports : a statement true also of Belgium.

Odious Comparisons

Having considered amounts of production, let us complete our survey, and get the picture into perspective, by comparing amounts of trade. And, first, as between England and Germany :—In '91 we exported to Germany 31,839 tons of manufactured iron and steel ; but Germany (who, a few years before, depended very largely on ourselves for her own consumption) sent us 109,958. Under the general heading of iron, wrought and unwrought, the returns of our German exports exhibit a fall from 374,234 tons in '90 to 297,510 in '95. It will be noted that these figures are largely in excess of those in the preceding batch. The reason is that by far the larger part of the exportation under this heading consists of pig-iron. Now, though it is satisfactory (in its way) to know that we send large quantities of this product to Germany, that satisfaction is horribly discounted when we regard pig-iron—as we must regard it—as really raw material for the use and profit of German manufacturers. In this connexion, too, it should be noted that the small increases which, from time to time, have taken place in the volume of our iron exports, and which have somewhat made against the general reduction, have been mainly in this very branch, so that the general figures are still worse in fact than they are on paper. Again, our exports to Germany of telegraphic wires and apparatus were valued at £72,709 in '90, £196,026 in '91,

and £21,638 in '95. And the figures of our imports from Germany for these years are in inverse ratio. Of unenumerated iron manufactures, Germany supplied us with 219,841 cwt. in '90; and with 311,904 cwt. in '95. Moreover, the value of German steel and iron goods exported to England in '94 was 24,400,000 marks, or 3,700,000 marks over '93,—a sufficiently formidable increase for a single year! The comparative production of the two countries tells a similar tale. In '92 their several ore-productions were about level at eleven millions and some odd tons; which represented a drop on England's part of about seven millions of tons since the early Eighties, but a rise on Germany's of nearly four millions. Yet the average number of tons worked per annum per man in Cleveland is nearly three times the German average. A comparison of the total production of pig-iron for '94 with that of a decade earlier, gives these results:—

	'84.	'94.
	tons.	tons.
England	7,528,966 [1]	7,364,745
Germany	3,465,000	5,380,000

The popular idea with respect to our Colonial possessions is that they assist the prosperity of the Mother Country. As matter of fact, they furnish a most convenient outlet for German energy. Indeed, as regards iron and steel, they are, with England herself, the best customers the Germans have. At present the amount of their exports is not nearly so great as that of England's; but their export trade is growing, and England's is declining. Especially in respect of India is the position serious:—as witnesses the following table of exports from

[1] This figure shows a drop of 11 per cent. on the preceding year, when the amount produced was greater by 961,258 tons.

England and her chief rivals—Belgium, that is, and Germany—for the last twelve years[1] :—

Year.	From United Kingdom.		From Belgium.		From Germany.	
	Iron.	Steel.	Iron.	Steel.	Iron.	Steel.
	cwt.	cwt.	cwt.	cwt.	cwt.	cwt.
'83–4	3,473,619	240,149	86,657	10,981	9,411	1,609
'84–5	3,423,559	263,433	165,488	24,287	5,209	1,400
'85–6	3,322,511	255,871	152,069	20,629	4,146	1,850
'86–7	3,102,856	327,744	162,043	19,240	3,222	2,154
'87–8	4,077,292	372,824	188,584	42,913	8,148	3,283
'88–9	3,715,081	456,550	262,436	77,976	11,928	7,063
'89–90	2,983,080	385,916	606,544	66,375	5,525	16,099
'90–1	3,306,381	462,671	536,076	164,874	13,134	76,235
'91–2	2,859,753	347,816	776,328	301,573	28,559	123,086
'92–3	2,382,578	270,751	1,153,411	283,817	34,727	66,712
'93–4	2,320,839	420,158	1,223,332	518,395	102.334	100,188
'94–5	1,956,721	369,753	1,176,179	448,091	75,264	84,083

It is, in truth, the wretchedest reading ; rom supplying India with 98 per cent. of her iron and 95 per cent. of her steel in '83-4, in '94-5 we had declined to 61 per cent. of her iron and 41 per cent. of her steel. Our actual decline has been nearly 50 per cent. in iron, against Belgium's increase of 1,257 per cent. and Germany's of nearly 700 per cent. ! In steel we are only supplying about half as much again in the last year of the period as in the first ; but Belgium is sending forty times and Germany over fifty times as much. This amazing business is partly explained by the fact (vouched for by Mr. Jeremiah Lyon) that "the P. and O. Company charges 15*s.* 9*d.* per ton for carrying iron from London to Bombay," and "that it sends its steamers to load in Antwerp, and will bring iron from there to London, and thence to Bombay and Calcutta for 10*s.* per ton." Yet the English Government subsidises the P. and O. Company to the tune of £1,000 a day ![2]

The amount of German iron and steel exported to Aus-

[1] *Iron and Coal Trades Review*, 29th November, '95.

[2] Of late, I understand, a reduction has been made in the freight of English iron and steel.

tralia was 24,000 tons in '93 ; a year later it had risen to about 42,000. In painful contrast with this is the statement for England. Despite the recent development of West Australia, where we might naturally expect a rise even in English goods, the returns attest a fall from 19,861 tons in '90 to 6,958 tons in '94. In the same period South Australia shows a shrinkage from 38,139 to 24,408 tons ; Victoria, one from 108,171 to 46,898 tons; New South Wales, one from 93,857 to 58,115 tons ; while in Queensland the drop is actually *from* 51,184 *to* 18,073 *tons*! Tasmania, too, has deserted in like wise; she took 5,916 tons in '90 and only 1,345 in '94. To go to another part of the world, we find Canada taking (roughly) 50 per cent. more of German goods and of English nearly 100 per cent. less in '94 than she took in '93. Thus, in our own industrial preserves the Germans are poaching the very game it cost us so much labour and money and blood to stock and rear.

Beaten at home and in our home over-seas, it is not likely that we should be holding our ground in foreign countries. Nor are we : as one or two examples will suffice to prove. Russia is the most conspicuous of all. In the first of these papers I referred to the tremendous fillip which the Russo-German Tariff Treaty of '94 gave to the German export trade to Russia. In no branch of commerce is this expansion more in evidence than in iron and steel :—

EXPORTS FOR THE SIX MONTHS ENDING JUNE 30TH.

	'95.	'94.	'93.
	double cwts.	double cwts.	double cwts.
Angle iron	139,791	87,708	61,671
Bar iron	438,450	297,554	197,991
Plates	196,837	108,054	84,315
Ordinary iron goods ...	66,943	49,442	47,085
Total	842,021	542,758	391,062

As a rough contrast, here is a table showing England's exports to Russia for the same three years (the 12 months) :—

	'95.	'94.	'93.
	tons.	tons.	tons.
Bar, angle, bolt, and rod	2,853	3,555	2,469
Railroad iron...	14,325	3,634	19,932
Hoop, sheet and plate	3,439	8,095	6,059
Tin plate and sheet	29,926	23,906	30,527

The Italians, also—'tis the same with them. Exported German iron has mounted by regular increments from 50,530 tons in '90 to 89,296 in '95 ; exported English iron, wrought and unwrought, has fluctuated, but attests a fall from 160,989 tons in '90, the highest year, to 144,189 in '94.[1] And, having got thus far, I shall wind up this section with a table of five years' aggregate exports and imports, in iron and steel :—

GERMANY.

Year.	Imports.	Exports.
	tons.	tons.
'90	491,592	957,693
'91	331,503	1,160,488
'92	278,457	1,133,676
'93	286,631	1,213,048
'94	270,315	1,439,585

ENGLAND.

Year.	Imports.	Exports.
	tons.	tons.
'90	315,674	2,706,260
'91	306,506	2,289,023
'92	294,279	1,865,738
'93	276,524	1,897,758
'94	287,604	1,735,757

[1] '95 shows an increase over '94 of nearly 18,000 tons of pig-iron ; but in manufactured iron there is either a very slight increase, or an actual decrease,—in the case of hoops, sheets and plates, a decrease of 50 per cent.

Thus, from taking near 50 per cent. more imports than ourselves in '90, the Germans have gone on producing till their figures stand beneath our own ; while in exports they have climbed from about a third of our total in '90 to a place not far short of that total in '94.

Belated Enquiries

At the beginning of this chapter I referred to "the fatuous reports of the British Iron Trade Association." I apologise to the gentlemen who manage the affairs of that body if my language was unduly severe. In truth, I cannot think it was. Nor, to judge by late events, would the members of the Association themselves.

The proverb about locking the stable-door after the steed is stolen is certainly a *cliché ;* but in the present instance it has so close an application that 'tis irresistible. The old reports of the British Iron Trade Association leave the student with a general impression that, in so far as the British Iron and Steel Trades were concerned, everything was for the best in a best of all possible worlds. True, their statistics often told an unflattering tale to those that had brains to heed ; but the meaning of the said statistics scarce appears to have been apprehended. At any rate, the compilers of these tables, with the commentary thereon, are now and again responsible for sentences like this :—"The returns appear to show that our machine factories are doing quite as well as our Iron and Steel works proper in the way of holding their own against foreign competition."[1] To bear in mind some figures I have given is to recognise that remarks of this character convict themselves of inappropriateness. There are who say that figures never lie ; there are also who prefer the cynical division of "lies, damned lies, and statistics" : the truth being that the value of statistics (given their accu-

[1] *Report of British Iron Trade Association for* '90, p. 52.

racy) depends upon (1) their completeness, and (2) the breadth of view with which they are handled. This latter quality entered into the mental processes of the Association report-writers somewhat late in the day. Not until '94 did those who direct the Association's affairs awake to the fact that something was wrong. A committee was appointed to investigate the question of foreign competition, and in April, '95, a report was addressed to the Board of Management which, despite some creditable efforts to take a cheerful view of the situation, revealed the fact that England's supremacy in iron and steel was a thing of the past. The publication of this report was followed by an enquiry *sur place:* a delegation of masters and tradesmen being sent to Germany and Belgium to investigate. It came home bearing its sheaves (of evil tidings) with it. It was as well that the investigation should be held; but it would have profited infinitely more had it been held some ten or fifteen years before. Its report may be useful even now in checking us on our downward course; but it will be useful—mainly useful, perhaps—as an object-lesson to the conductors of other industries (also threatened by the foreigner), who may perchance take heed in time, and lock their stables while there is still something inside them.

German Advantages

I do not purpose now to discuss the general causes of German success and English failure: but in the case of special causes affecting a particular trade it is as well to allude to them by the way. In the case of Iron and Steel such special causes are in operation. Chief among them is the lower cost of production.

It must not, however, be inferred—as English people are far too ready to infer—that this means lower wages. That explanation has long been worn threadbare: it is an easy

disposition of the question, and saves the manufacturer from the exercise of that searching of heart as to his own shortcomings, which is as precious in commerce as in morals; at the same time that it serves as a clinching argument against any application for better pay on the part of his servants. But it has the demerit of being founded for the most part on a delusion. Thus, it was found by the delegates of British Iron that for loading-plates German mechanics are paid at the rate of a franc per ton, whereas the Middlesborough man gets only $5\frac{1}{2}d.$ to $7d.$ An Englishman employed at certain ironworks in Germany, who had once been at Darlington and Middlesborough, and was therefore fitted to compare, discoursed the delegates thus:—"Undoubtedly our men are better off than the men in England. We pay, generally speaking, higher wages. You have some few men who get higher wages than any men in our works; but over the whole of the men we get higher wages than you pay. That is an absolute fact." This is emphatic; but it is fortified by the observations of such Englishmen interested in the trade as have travelled the Continent in a note-taking spirit. Further, the official statistics of wages in Germany may be cited in confirmation. These show—not only that the German worker's income averages very fairly with the English ditto's, but—that the German's wages are on a pretty steady upward grade: which explains the signs of a higher standard of living now noticeable among the German people. I am speaking more particularly of the manufacture of finished iron and steel; miners and workers in the pig-iron furnaces are not so well paid, and it may be that their wages will not bear favourable comparison with Englishmen's for similar work. It is, nevertheless, a great mistake to suppose that the cheaper pig-iron to which the Germans now have access, is inexpensive solely by reason of low wages. The better explanation is to be found in the increased productivity of the German furnaces. "Ten

or twelve years ago," says Herr Weinlig, "a daily turn-out of 60 to 70 tons of forge-pig iron or 50 tons of *Spiegeleisen* was considered large; but 150 to 170 tons of best quality forge-pig iron, 100 to 120 tons of *Spiegeleisen*, &c., are now quite common." [1] Here is a most excellent reason for the cheapening of German pig-iron. Note the progressive productivity of the English furnaces, and the argument will be complete. In '81 our annual output averaged 15,176 tons per furnace, giving an advantage over the Germans of 3,567 tons per furnace. By '93 we, too, had advanced towards perfection; but only to the extent of 21,400 tons of annual output. This leaves us 3,041 tons behind our rivals. And yet the English manufacturer goes on his fine, old crusted way and seeks to dissemble his stupor, and his narrow and dogged aloofness from improved methods, in the miserable excuse of "German cheap labour."

There are other reasons for German cheap production. They don't waste their material in the prodigal fashion which obtains this side of the North Sea. When the British Iron delegates visited a certain plate mill, they found that the arrangements involved 15 per cent. less waste—"practically no waste" was one delegate's description. He significantly added:—"It would be absolutely impossible to produce sheets in such a quantity, and of such an appearance, with the appliances we have at our disposal." Another commissioner remarked:—"As a practical man I must admit that I never saw anything like it, and could not have believed it possible unless I had seen it with my own eyes." This Practical Man admitted also that "there is a danger to the Midland District unless we can, by some means, increase our output, develop our machinery, and bring our sheets to greater perfection." The Practical Man is right: there *is* a considerable "danger." He would have been justified in the use of a stronger word. Another cause of comparative

[1] *Stahl und Eisen*, vol. xv., p. 140.

cheapness of production is the lower railway rate which iron has to pay. Railway rates are a fluctuating quantity just now, both in this country and on the Continent; but analyses show them to be very much lower in Germany, as well as Belgium and Sweden, than they are in England. The figures are hopelessly complicated for purposes of comparison; but there is little danger of exaggeration in saying that on the Continent they do not pay for railway carriage half what is charged in England. It is worth noting that German railways are especially moderate in their rates to shipping ports. Account must also be taken of the Dephosphorizing inventions already referred to, which came into use early in the Eighties. Between '78 and '80 the Germans had to buy ore for pig-iron at prices ranging from 22*s.* for common forge to 38*s.* 6*d.* for Bessemer; but the ore cost of pig of qualities suitable for making wrought iron or basic Bessemer steel is probably at the present time not more than from 15*s.* to 20*s.* per ton. Then, as regards the two export trades, the staunchest Free-Trader cannot afford to overlook the advantages of the German Protective System. English iron and steel, on entering Germany, are handicapped with a duty varying in amount, but reaching to over half-a-crown a hundredweight for tin plates. This makes it very difficult for us to compete with home-made metals. It likewise enables the German to raise his prices to his compatriots, and screw such a profit from them that he can afford a big reduction on his export prices, so that he cuts at his English rival in two directions. The duty makes our goods too dear to sell in Germany, at the same time that it makes German goods so cheap in the world-market that we are being undersold therein and ousted therefrom. The cheap export manufacture also enables the Germans to keep their works fully employed; and this means a great saving in standing charges. Moreover, to pass from cheaper production and distribution, the method of con-

ducting business in many English houses is as rigid as their own cast iron, which makes it difficult for the English patriot to keep patience with the English manufacturer. Here is an excerpt from the correspondence columns of a trade journal [1]:—

> Sir,—Some time ago I had occasion to place an order for thin wrought-iron sheets. In answer to my enquiry one firm wrote: "We regret the specification would not suit us"; another, "We regret it does not suit us to quote for black sheets at present"; and other makers in the same strain.
>
> Last month I required some steel sheets, and received almost identical replies.
>
> My friends are now putting down a plant abroad for rolling their own—meanwhile the sheets they require are
>
> MADE IN GERMANY.
>
> Brussels, December 9.

Surely this letter "speaks for itself"?

In Review

It is but too clear, then, that on all hands England's industrial supremacy is tottering to its fall, and that this result is largely German work. But in no branch of our commerce is an approaching downfall so patent as in Iron and Steel. Our production of iron-ore is less than it was; and so is our make of pig-iron. Our manufactures of iron are dwindling; and our manufactures of steel are not increasing in a compensating ratio. And so well have our rivals—Germany in particular—taken advantage of *our* discoveries and of *our* experiments, that it is not at all fantastical to picture England as the nursery of the Continental iron and steel trades.

Many English furnaces are damped down; many English works are idle, or almost idle, even in "good times," while the foreigner, even through bad times, goes on increasing his output. English manufacturers are found working often with scarce a bare margin of profit, often at a dead loss; while German firms are earning handsome

[1] *Ironmonger*, 14th December, '95.

dividends. (In one establishment a British Iron Trade delegate reported the payment of a dividend varying in the past eighteen years from 25 to 30 per cent.) Yet until the other day the English Iron Trade sealed its eyes to the damning facts with a cheerful pertinacity which the ostrich of fable might have envied. Now that it is resolved to view the situation, it is filled with amazement and alarm. One Association delegate, after a visit to one of the German works, remarks, with emphasis: "I was astounded." And a colleague concludes his observations with this pregnant and hopeful confession: "We shall have to begin and learn again." A fervent *Amen to that!* must be the response of every well-wisher to England's prosperity. To sit at the feet of those who learned their trade from us may be humiliating, but it is vitally necessary in the present posture of affairs.

Let us return, in conclusion, to the prophetic words of Dr. Wedding (of Berlin):—"You, our English visitors, will also acknowledge, as soon as you have learned to know our iron industry, that . . . . the Germans have known how with advantage to adapt to their local circumstances that which they received from you, and to develop it in a way peculiar to themselves." But why didn't we "learn to know" their iron industry sooner? The development might not then have been "in a way peculiar to themselves."

III

SHIPS, HARDWARE, AND MACHINES

The dry-rot in English Iron and Steel has spread—though not, as yet, to quite so destructive a degree—to what are known as the Allied Trades ("Daughter Trades" would be perhaps the better term). The furnaces and the foundries are experiencing the chief effect of German competition; but the shipyard, the machine-shop, and the hardware and cutlery trades are also menaced from the same quarter. My classification in this chapter is somewhat heterogeneous; and if it strike the reader as bewildering that I include an ironclad in the same category as a pocket-knife, I can only adduce the plea of community in origin and likeness in certain characteristics. The mass of statistics compiled for iron and steel are lacking in respect of the Allied Trades, and the extent and nature of foreign encroachment are therefore less apparent to the student. But though a larger amount of tabulated information is greatly desiderated, there are figures enough in official xport returns, Consular Reports, and the like, to excite the gravest uneasiness regarding the future of English hardware, whether it take the form of pocket-knives or the form of ships of the line.

Ships

Correspondent to the universal belief in our naval supremacy is the belief, also universal, in our supremacy as shipbuilders. It is a belief which is justified by facts : England is actually at the head of the trade. But even here the time qualification is necessary, for her premiership is by no means assured ; and even here a national craft is on the black list too. In '83 the total tonnage built in the United Kingdom was 892,216 tons ; in '93 it reached only to 584,674 ; in '94, 'tis true, it rose to 669,492, but this is much below the total even of '92, which was 801,548. These are the figures as given by the Board of Trade. Lloyd's for '95 are differently computed: they put the total tonnage of ships (inclusive of warships) launched at both Government and private yards at 1,247,189 tons—an increase of 20,000 tons on '94. But the special naval output of last year must obviously be subtracted ; when you get a decrease on the year of over 95,000 tons. All these figures include vessels built for foreigners, as well as those for home and the colonies. The year in which we built most vessels for other nations was '89, when we supplied them with 183,224 tons. The four following years showed a progressive decrease, getting down as low as 89,386 tons in '93, and though '94 showed an increase to 94,876 tons, the upward movement was trifling compared with the successive decreases of the previous years. Still more remarkable is the drop in our supply of foreign warships from 12,877 tons in '74 to 2,483 tons in '94. These figures are unsatisfactory from any and every point of view ; but they would not perhaps be alarming were it not for the fact that at least one other country is steadily increasing her output of ships : that country, of course, being Germany.

For centuries the German shipyards were a matter of small importance ; but of late the German nation has looked upon the clanging yards that line the shores of

Tyne and Clyde and Lagan, and has said unto herself, "Why not?" Now, when the German takes an industrial longing badly, it is usually safe to conclude that he is well on the road to its fulfilment; and though shipbuilding was long regarded as one of the industries (almost, alas! the only one) in which the German had no chance, he has none the less girded himself for a trial of strength in it. To give the industry a helping hand, a law was passed as far back as '85, enjoining that materials destined for the construction, the repairing, and the outfitting of seagoing vessels, inclusive of "gear" (as rigging, sails, compasses, cannon, pumps, handspikes, boats, and the like), should be admitted duty free. In '94 the mercantile navy was increased by seventy-one bottoms, only fifteen of which were built in the United Kingdom, but fifty-four were built at home. At Stettin there is a shipyard known as the Vulcan Works: an enterprise so formidable that ('tis said) it is scarce to be surpassed in any part of the British Isles. With the Vulcan Works and with the Schichau Yard at Dantzig the North German Lloyd was moved to place an order for the building of two steamships, bigger, it is stated, than anything afloat, and representing a capital of some £950,000. When the Kaiser heard of this piece of practical patriotism he at once despatched a "wire" of congratulation and delight; and seeing that the Germans (that is, those of them who are not Social Democrats) love their Kaiser, and are always ready to fall into line with his telegrams, this message of his may be held to have had its influence on the German shipowner. This is of peculiar importance, in view of the great increase in German shipping now in progress. Here patriotism goes hand in hand with economy; for ships are built more cheaply in Germany than with us. It is therefore not surprising to find that the Kaiser's wish is already in process of realisation; so that, as Her Majesty's Consul-General at Hamburg puts it, the German shipyards are now receiving

so many orders for merchantmen that of the last to come in they have been able to accept only a few. Those in hand in '95 extend to '97, so that some firms are compelled to ask for long terms of delivery, while others have ceased from asking new commissions. (Concurrent with this intelligence was an announcement referring to the north-west of England in *The Iron and Coal Trade Review*, that "in the shipbuilding department there is somewhat less activity than of late, new orders being wanted.") So great, in fact, is the German demand for ships, so badly choked are the local sources of supply, that at last unhappy Britain gets a look in. Scenting business from afar, the German shipowners are exigent in their requirements. Some decline to push patriotism to the extent of enduring that delay (of fourteen months) which application to the home-yards means; so they send to us in England (here "new orders" are "being wanted"), who are plaintively offering to deliver in six months. It is thus that Messrs. G. Connell and Co., of Scotstown, got the order for the two (out of three) new steamers wanted for the Kosmos Line; thus that Messrs. Harland and Wolff, of Belfast, that for the new sister-ship to the *Normannia*. And England, once the shipbuilder of the world, is glad and thankful to get the German's leavings! This glut in the German yards is due to the rush upwards in German trade: they were simply not prepared for so magnificent a short cut to prosperity. But it will not take them long to accommodate themselves to their new circumstances. The enforced rejection of big orders must have gone sorely to the German heart, and the German industrial genius will mighty soon find a way to prevent any such wicked waste of opportunity in the future. It will be very unlike the Germans—very unlike any body of capable business men—if the existing incapacity of their yards be not converted into something very different; and then there will not even be their leavings for us. Moreover, the ambition of Germany does not stop

at the satisfaction of her own shipowners: she purposes also to build for the world. She has an eye (and a keen one) on every possible market, and the late lock-out, in British yards has excited the liveliest interest among her shipwrights. Wherever there is the chance of a foreign order, that order has been eagerly sought; so that, despite the inadequacy of her yards, it is reported that she has already succeeded in roping in the Japanese for a number of iron-clads long regarded as safe for our own shipyards. It is also affirmed that part of the ten millions sterling which China, bent on being a naval power, was prepared to spend on Tyneside, will go to Dantzig and Stettin. And now the Norwegian Government has ordered a couple of ironclads of the same determined rival. I have already referred to the relative cheapness of the German ship;[1] but the difference in price between German and English work is not yet sufficient to satisfy the Germans themselves. A committee of iron and steel masters, which sat at Hanover of late, has drawn up a set of resolutions calling on the German Government to lower the railway rates on all material used in German yards. The acceptance cannot but prove of invaluable service to the industry: the more especially as there is not the faintest chance of our being able to equalise matters by getting a like concession from the English lines. These facts and considerations, which are—or should be—in the minds of English shipbuilders, show yet more plainly the criminal fatuousness of deliberately driving trade away (as in the recent lock-out) at a time when much was in prospect of retrieval. Trade is elusive enough, anyway: when it is wantonly sent elsewhere, it is like to be coy about returning.

[1] A flagrant instance came to light some little time back, when the Commissioners of the River Wear constructed a 600-ton sand pump hopper. The contract was given to a foreign firm, whose tender was said to be £1,100 below the lowest from an English yard. And yet we boast of possessing the cheapest shipbuilding material in the world.

Shipping

To discuss shipping is to diverge from the subject-matter of this chapter, yet the connection between the building and sailing of ships is, I think, sufficiently close to excuse a digression. Great as is England's fame as premier ship-builder of the world, her fame as ocean-carrier is still greater. Yet at this point, also, the ubiquitous German is starting into rivalry. It need not be said that as yet he is a long way behind. But there is need to say, and that with emphasis, that he has made such headway that he is already second in steam tonnage to ourselves alone.[1] In '70 the total merchant tonnage of the German Empire was 982,355 tons; in '80 it was 1,181,525; in '90 it was 1,433,413; by '93 it had got to 1,522,058; and though full figures for a later period are not available at the time of writing, it has been ascertained that this total was increased by 144,588 tons in '94. A fairly big allowance may be made for wrecks and vessels gone into disuse; but even so, it is safe to assert that Germany's rate of progress has been extremely satisfactory (to herself), while there are everywhere signs that it has been at the least maintained since '94. In an estimate made of her effective tonnage in '93 and '94 the figures are respectively 4,214,385 and 4,573,526 tons: which represents an increase of 8 to 9 per cent. (England's ratio in the same period was only about $3\frac{1}{2}$ per cent.) The present year ('96) is to witness a great nautical Exhibition at Kiel, arranged for the purpose of showing "the world that German advance in naval matters is as rapid as in most other industries." [2]

Scarce any item of news is more frequent in the Consular Reports of recent years than that of the establishment of new, the development of existing, German lines. Within

[1] *Foreign Office Report*, Annual Series, No. 1432.
[2] *Engineering*, 6th December, '95.

five years the fleet of Hamburg liners has been doubled; and this record tallies with that of other commercial operations. For example, Germany is now exploiting with peculiar eagerness the South American republics; and at once you note the establishment of a specially good service to South America. In like manner a writer in the *Deutsches Handels Archiv* advocates a more frequent service between Germany and the German South-West African Protectorate in connection with the distribution of German goods. This watchfulness for new markets, this prompt seizure of new markets so soon as they are discovered, are proof that Germany means business in the shipping as in other trades, and will have to be reckoned with as a serious rival. Already, indeed, the German has encroached on what might fairly have been regarded as an English preserve: I mean, the European trade with our Possessions. Two German lines are plying between Hamburg and Calcutta, each with two departures monthly, which gives a regular weekly service.[1]

In the last century England's interest in her shipping was so great that she prohibited imports from Asia, Africa, and America except in English bottoms. Now the increase in foreign ships is scarce deemed worth a perfunctory comment in her public Press. And meanwhile the grant-in-aid is lavishly employed by the German Government (see, for instance, the estimates of the Empire for '95–'96):—

	£
"Item 11.—Subvention to German postal lines to East Asia and Australia	204,500
"Item 12.—Ditto with East Africa...	45,000"

so that it is not at all astonishing to read[2] that "large new (German) ships have been placed on the lines to both the east and west coasts of South America, Africa, East Asia, and Australia, and the Hamburg-American Line is

[1] *Foreign Office Report*, '94, Annual Series, No. 1432.
[2] *Foreign Office Report*, '95, Annual Series, No. 1623.

running fine steamships of 7,000 to 8,000 tons each"; nor to learn that in one year the net earnings of the German East African Line have mounted from £34,716 to £39,875 10*s*. Meanwhile the circulars of English companies set forth complaints like this:—"Since May 1st the shipping trade has remained in a very depressed state, and we cannot yet report any general improvement." [1]

Cutlery

Let us now revert to my avowed subject.

In the cutlery trades—an important and essentially English branch of English industry—the difficulty in obtaining statistics is exemplified with peculiar force. The Sheffield cutler hath a suspicious nature, with a rooted aversion from the collection of figures relating to his business. Accurate tables of production and sale are not, therefore, to be had; nor is much light to be got from the Government Export Returns, where razors, slop-pails, hairpins, lamps, brass bedsteads, with a multitude of other and various articles, are lumped together with catholic impartiality under the generic heading "Hardwares and Cutlery." Yet there are signs and to spare that the German is making himself felt in Hallamshire as elsewhere. He got a useful introduction to the market by inventing the hollow-ground razor, and he sedulously improved the advantage then and thus secured. Unfortunately for his commercial good name, his improvement of opportunities has not always been pursued with a due regard for commercial morality. The supreme merit of Sheffield steel is household knowledge in the remotest quarters of the earth; and that buyers may be assured that they are getting what they ask, and can identify the firm which sells, the goods are mostly branded with special trade-marks (as the famous star and cross of Joseph Rodgers

[1] *Engineering*, 6th December, '95.

and Son). Here was an opening for the German genius: and the world now glitters with German cutlery adorned with elegant suggestions (reproductions even) of the best praised Sheffield marks. Let me cite as a clamant and scandalous example, the Rodgers cutlery aforesaid. The makes of this firm have so exalted a reputation all over the globe that the Customs of more than one State have put them in a special category in their scale of import duties. Need I add that in Germany this brand has been steadily marked down for fraudulent trade? To say nothing of direct imitations—(and, considering that the firm has been spending £1,000 a year in fighting trade-mark thieves, we may assume that these are pretty extensive)—ingenious devices of a more indirect kind exist in shoals to testify to the German cutler's wit. To give an instance of the German commercial imagination: one firm has invented (for British India) a pretty trade-mark—a trade-mark figuring a pair of crossed dumb-bells and a wheel. It sounds original; but it looks so remarkably like the cross and star of the Sheffield house that purchasers have bought large quantities wherever it is shown, under the agreeable delusion that they were stocking their houses with the finest Sheffield steel.[1] Other Germans have developed a taste for pseudonyms; and cutlery of their make may be met with bearing the legends, "Rudgens," "Rottgens," and the like, designed (I fear) "with intent to deceive" unwary customers in Oriental and other lands, where the niceties of European orthography are not known. Franker in thievery is a certain firm of sickle makers, which set itself to compete with a firm in the Sheffield district. The Sheffield firm was doing a very large business with Chili. The sickles, which were first

[1] The High Court of Saxony has discountenanced this particular expression of the German genius; but the penalty imposed (£15) is a mild deterrent. The robber gravely contended that the Hindoo's "highly developed sense for pictorial art" made confusion on his part "inconceivable."

quality, were stamped with an L.O. brand. The German firm soon found that "L.O." was a highly suitable mark; cargoes of L.O. sickles were shipped to Chili from German ports; they were sold there at a low figure; and now that Sheffield firm has lost its trade.

The commercial ability of the German cutler is further shown in his choice of goods for fraudulent marking. When he turns out good work, he subscribes to the dogma which proclaims the superior policy of honest dealing. It is when the stuff he produces is of the worst that its progress in the market is helped with English marks. So is Sheffield the victim of a double wrong: first, her good name is stolen; and next, it is ruined by being affixed to the nastiest cheap-German wares. In these circumstances it is not surprising that the Sheffield traders, unlike their colleagues in some other branches of commerce, should have taken unto their affections the Merchandise Marks Act. This Act, however, is not a universal safeguard; in the Indian case I have just mentioned the German imitations were duly stamped "Made in Germany," but as the average Hindoo's acquaintance with European letters is no more intimate than the average European's acquaintance with the Sanskrit alphabet, the words were not exactly an effective protection.

The German method of pushing business makes a pretty story. Unhappily that story lacks a moral. Retribution has yet to overtake the fraudulent. In the present they prosper exceedingly. A couple of instances will help to bring the flourishing character of the trade before my readers' minds in a concrete shape. In '93 Austria and Germany between them exported to Servia cutlery and tools to the value of £3,796, whereof £1,296 went to the credit of Germany. In that year the export of British cutlery to Servia was not worth a ten-pound note. Now, the contiguity of Austria sufficiently accounts for the magnitude of *her* export; but in view of the facts, that in

'36 Lord Palmerston sent a British Consul to Servia for the purpose of encouraging commercial relations, and that England is not much farther off than Germany, but is as easily reached as Germany by sea, the figures of the two countries stand in startling contrast. An effective explanation of the phenomenon is furnished by the English Consul at Belgrade in his report on Servian trade in '94:—[1]

> The Servian purchaser is resolutely conservative in adhering to traditions of shape and pattern, for which indeed he cares more than he does for quality; the kitchen knife, for instance, is an important article with which the Serb is accustomed to chop bones and meat; the blade must therefore be especially broad at its insertion into the handle, in order that the holder's knuckles may escape abrasion. The German manufacturer yields to this whim, and gives the blade the required shape, a concession which British manufacturers have hitherto refused. The result is the triumph of a German instrument, of which the blade turns on bone, over an English knife of about equal price but far superior temper. It is due to the German, however, to remark that he spares no trouble to give a proper finish to the article by carrying the metal of the haft quite through the bone or ivory handle to which he rivets it, whilst the English haft goes in a part of the way only, and works quickly loose. The question of pattern is equally decisive as regards other tools.

My second example is from Russia. In '89 Germany exported to that country cutlery to the value of 21,000r.; three years later her export was worth 67,677r.: all this before the reduction in the duty made by the Russo-German Tariff Treaty, the operation of which is sending up the trade enormously! Contrast, now, this prosperity with what is virtually our decadence. As I have said, Board of Trade returns of cutlery exports are imbedded in a category which comprises many other articles; but statistics are compiled by other Governments, and they cast a cheerless ray upon the gloom. The authorities at Washington—most voluminous of statisticians—have separated cutlery from other steel goods; and I am indebted to the courtesy of the United States Consul at Sheffield for a table of the cutlery exports in recent years

[1] *Foreign Office*, '96, Annual Series, No. 1685.

from the Sheffield district to the United States. It shows a decline from $1,307,540·85 in '90 to $407,379·13 in '94. Thanks to the new Tariff, there was better business in '95; but the fall in the years I have quoted is very great. The *Ironmonger's* Special Commissioner to the Antwerp Exhibition of '94, reviewing the matter with an expert's eye, was especially struck with the falling off in Sheffield cutlery in the Belgian city. English firms, he wrote, now "send a dozen where they formerly shipped a gross." In shop windows where some forty years before he remembered "a fine assortment of all sorts of English tools and cutlery, a few ship-carpenter's adzes and axes from Spear and Jackson and W. Greaves and Son are the remnants remaining." What wonder that his visit impressed him with the belief that the great lesson of the Antwerp Exhibition was "the rapid decadence of England's industrial supremacy"?

Nor is it only German knives and razors, inferior in quality and fraudulent in mark, which compete successfully with English goods. The better class of German work is also in dangerous rivalry with ours; for, in truth, the despicable practices to which I have alluded are by no means the sole reason for Germany's success. There are many others. Those among them which are of application to our industries and commerce in general I shall deal with in another place; but there is one potent cause of successful competition in the cutler's trade which may conveniently be mentioned here. It is this: the magnificent quality of Sheffield work is in great part owing to the amount of "unseen work" which the Sheffield blade receives. Every high-grade blade made in a Sheffield shop gets a prolonged hammering in its unfinished state, a hammering whereby the molecules are driven out and the crystals are smashed; with the result that it acquires a toughness not otherwise to be achieved, a toughness permitting continual use until it is worn to a mere wire.

When it is finished it shows no trace whatever of this "unseen work," whose presence, indeed, not even an expert can detect. The German is wiser in his commercial generation. Why (in effect) put into an article a lot of work, which nobody can trace, and whose chief effect is to make the buyer independent of the cutler during many years? No: what is wanted is an article that will look perfect and cost as little as may be to make. Thus the German cutler to his soul; and thereafter he reduces his "unseen work" to the smallest possible proportions, and devotes himself to the achievement of a pleasing "finish": till even the Sheffield man is fain to admit that a German knife is a better looking article than an English one.

Hardware

Let us now, for statistical purposes, take hardware in the lump. In '82 we exported hardware and cutlery to the value of £4,107,125; since then there has been an almost steady declension, till in '95 the total reached is but £1,856,532, which represents a drop of about 55 per cent. in thirteen years. This branch of industry has not (further) been benefited to any appreciable extent by the trade revival of '95, while it is significant that our exports to Germany have actually held the downward way through what is a period of expansion elsewhere. Germany, on the other hand, has enjoyed a steady expansion.

Consular Reports help to point the moral of the Board of Trade statistics. Sir Charles Oppenheimer, in his reports on Germany's Commercial Relations with Foreign Countries,[1] includes a set of estimated tables of the value of "Hardware, &c.," exports from Germany in '92, '93, and '94:—The figures are £3,795,200, £3,756,100, and £3,704,100. The slight decrease in value is caused by falling prices: the tables of quantities showing an increase.

[1] *Foreign Office Report*, '94, Miscellaneous Series, No. 340; and '95, Annual Series, No. 1586.

England's exports of hardware and cutlery for those years were worth £2,194,726, £2,046,606, and £1,834,481,—a very much more serious business! And not only is Germany ahead of us; but also she is year by year increasing her distance. Our Consul-General at Tunis, in his report for '94,[1] speaks of the "extinction of the hardware trade, which was formerly monopolised by Great Britain." A Consular despatch from Japan informs us that between '84 and '94 the export of iron nails from Great Britain declined from four to three millions of catties, while Germany's ran up from two to nineteen millions. In view of this last item it is not astonishing to learn (as one may from *Kuhlow's Trade Review*) that "the German wire-nail industry in Rhenish Prussia, Westphalia, and Silesia has experienced such an extraordinary development in the last fifteen years that, besides supplying the enormously increased home demand, the export trade has increased 250 per cent. . . . According to official statistics, wire-nail exports increased from 82 tons in '80 to 282 tons in '94." To give an idea of the existing magnitude of this industry, it should be stated that the total German export in '94 amounted to no less than 56,414 tons. Of wire, galvanised and other, the German export in '94 was about 209,000 tons. Worst of all, over a fourth of it (59,000 tons) came to England, whose total export for the same year came to no more than 36,000 tons. It is significant that next to Japan the chief market for German wire is England.[2] Turn we to another country—to Roumania. In the decade between '84 and '93 her imports from Great Britain under the heading, "Metal and Manufactures of Metal," went down from 29,390 to 20,872 tons; her imports from Germany went up from 12,670 to 34,565 tons. But the most startling figures come from Belgium, which, in the first year of the decade, sent 2,556, and in the last year 25,733 tons. Of Bulgaria Vice-

[1] *Foreign Office Report*, '95, Annual Series, No. 1648.
[2] *Board of Trade Journal*, December, '95, p. 696.

Consul Brophy reports that British trade in metals is declining, and that our total in metal goods of all sorts comes only third in the list, the first and second being—naturally —Austria and Germany. And our hardware exports being in this parlous state, our own Colonies deliberately impose protective duties on them! Even Sierra Leone, which can scarce ambition the establishment of a local industry, enforces so high a tariff on imported English hardware that the African Trade Section of the Liverpool Chamber of Commerce was recently constrained to protest—and protest in vain—to the Sierra Leone Chamber.

As for the United States, in some departments it seems to be knocking English goods clean out of the market, even in England. It is not for me to discuss the question in this place. But I note it in passing, for the purpose of reminding my readers how vital is the necessity of a stand against the still more insidious and deadly practice of the German.

Machines and Implements

I shall begin this section also with quotations from Mr. Pittar's Blue-Books. Here are some extracts from the returns of Foreign sales:—

STEAM ENGINES.

'90.	'91.	'92.	'93.	'94.	'95.
£	£	£	£	£	£
4,442,853	3,923,872	3,217,822	3,274,395	3,065,103	2,786,967

OTHER SORTS OF MACHINERY.

'90.	'91.	'92.	'93.	'94.	'95.
£	£	£	£	£	£
11,967,808	11,893,643	10,669,535	10,643,148	11,140,112	12,428,143

IMPLEMENTS AND TOOLS, AND PARTS THEREOF.

'90.	'91.	'92.	'93.	'94.	'95.
£	£	£	£	£	£
1,338,011	1,311,573	1,262,049	1,226,145	1,194,594	1,247,708

The optimist may point the finger of exultation at the last

two years of the second table; but for the cheerful character of its figures there exists an explanation which discounts that cheerfulness. The increase, it will be noted, is, after all, slight, and it is brought about mainly by two factors. First of all, there has been a substantial increase in the export of mining machinery to British South Africa. Of late, too, it may be remarked, there has been a "Kaffir Boom" in the City. The connection is obvious. Equally obvious is the fact that the boom in South African mining-machinery is scarce less temporary in kind than the boom in South African mining-shares. Secondly, there has been a substantial increase in the export of textile machinery, which—gratifying as it is to English manufacturers of that machinery—is of ill-omen to English manufacturers of textiles, and is not, therefore, a subject for gratulation on the part of England. It is, after all, a case of robbing Peter to pay Paul; only Paul gets but a comparatively slight and unenduring addition to his income, while poor Peter is robbed of his very means of livelihood: the textile machinery we export to Eastern and other lands being actually means and munitions of a general industrial war against staple English trades.

In other departments there has been a constant drop. Agricultural machinery shows a marked falling off in '95 as compared with '94. The drop is proportionately greatest in the trade with South America, and the significance of this should not be missed. It is in this same Continent that Germany is pushing her wares with such astonishing determination and effect. It is the same with agricultural engines. The decline here is exceptionally serious, inasmuch as in '95—the year of Revival—the fall is very much greater than in previous years of bad trade. Also, it is to be noted that the largest fall, actually as well as proportionally, is in the trade with South America. Locomotive engines are a bit better in '95 than they were in '94; but they are in a bad way, too.

The detailed returns of the Board of Trade are curious and unpleasant reading. For example, the export to Russia in '94 was less than half that of the export in '93; though at the beginning of '94 the Russo-German Tariff Treaty (in whose benefits England participates) came into operation, and Germany's exports experienced an immediate and enormous extension.[1]

Still more unaccountable, *prima facie* at any rate, is a decline of nearly 100 per cent. in our export to British India, a decline but partially rectified by the upward movement in '95.

And now, to complete our comparison, let us tabulate the last six years of the official statistics of German exportation. They are not compiled on quite the same lines as our own; but the headings are near enough:—

MACHINES AND PARTS THEREOF, CHIEFLY OF CAST IRON.

'90	'91	'92	'93	'94	'95
marks.	marks.	marks.	marks.	marks.	marks.
41,200,000	42,200,000	38,000,000	39,000,000	50,900,000	54,400,000

MACHINES AND PARTS THEREOF, CHIEFLY OF WROUGHT IRON.

m.	m.	m.	m.	m.	m.
8,600,000	8,600,000	8,000,000	8,600,000	10,300,000	10,900,000

SEWING MACHINES AND PARTS THEREOF, CHIEFLY OF CAST IRON.

m.	m.	m.	m.	m.	m.
6,300,000	6,400,000	6,400,000	7,200,000	7,200,000	8,600,000

LOCOMOTIVES AND LOCOMOBILES.

m.	m.	m.	m.	m.	m.
5,600,000	5,200,000	5,400,000	5,000,000	6,000,000	8,400,000

Here we find a steady marking-time during the bad time in the early Nineties, which England was unable to keep

[1] In the first six months of '94 the export of German cast-iron machines was nearly treble that of the same period in '93, though the Treaty had only been in force for a part of the '94 time. In '93 England sent to Russia 300 steam threshers and engines; in '94 only 190. The Russians say they can get such bargains in Germany.

up; and, in the first two categories, big forward moves in '94, when England, with the suspicious exception of textile and mining machinery, was still falling to rearwards. Note, too, the big increase in locomotives in '95, and compare it with England's decreased export of steam-engines in that year. Another consideration on examination of the detailed figures is that exports of machinery to Great Britain form a substantial item in the account. To export machinery to the greatest machinery-exporting country in the world seems a good deal like carrying coals to Newcastle. It is certainly most unpalatable food for English thought.

The progress of one Bavarian firm gives apt illustration of the growth of the German trade in machinery. Krauss and Co. started business in Augsburg in '66. In '67 their output consisted of eight engines, one of which, repairing to the Paris Exhibition, came back with a gold medal. In the first half of '94 Krauss and Co. built ninety engines.[1] The significance to ourselves of this success is accentuated by the fact that it was achieved in the teeth of a formidable increase in German competition. There are now thirteen other locomotive-engine shops in Germany, and they evince a special aptitude for the export business. Moreover, in Germany this advance is not specialised: it proceeds in well-nigh every branch of the machine industry, and reflects the latest improvements. There are few countries in the world without a German gas-engine; and where there is no gas laid on, the German "drummer" is ever ready to take an order for a German engine driven by petroleum or benzine. German tools, again, are always up to date, and the makers thereof have bounded on the fact that the milling machine has of late become an indispensable adjunct to the manufacture of other machines and tools. So, too, with machinery for making and working sheet iron, with textile plant, with heating and ventilating

[1] *Foreign Office Report*, '94, Annual Series, No. 1464.

apparatus, indeed with every modern necessity: if you want an article which is cheap, neatly finished, and thoroughly up to date, you will always find a house at Chemnitz, or at Berlin, or in the Rhineland, eager and able to supply you. The cycle trade must not be left out of account. The men of Coventry, indeed, will soon have to look to their bread and butter; for the cycle trade is coming on splendidly in Germany. She used to import her raw materials from England, but she is changing all that now, and is actually supplying English firms with tubing, ball-bearings, and other ingredients of the ubiquitous "bike."

Let me illustrate these tables of mine with a few typical details. First, for the trade between Germany and England. In recent years our export to Germany of the articles dealt with in this section has steadily declined. Taking '90 and '95 as periods for comparison, the figures read as follows:—

Implements and Tools.

'90.	91.	'92.	'93.	'94.	'95.
£	£	£	£	£	£
68,097	65,216	63,962	63,431	58,699	54,796

Steam Engines.

£	£	£	£	£	£
325,602	290,946	289,561	168,385	205,016	146,465

Machinery of other Sorts.

£	£	£	£	£	£
1,526,288	1,287,218	1,137,953	1,264,326	1,416,132	1,456,366

Compare these with our imports from Germany.

Sewing Machines.

'90.	'91.	'92.	'93.	'94.	'95.
£	£	£	£	£	£
67,528	89,861	82,659	77,740	96,160	101,688

Unenumerated Iron Manufactures.

£	£	£	£	£	£
282,998	270,653	296,523	353,369	469,860	408,974

And now for a country of a different sort. Let me again refer you to Servia. In '93 that kingdom imported machinery and parts of machinery to the value of £37,108 (including two locomotives and a locomobile engine from Germany), the greater share in which sum was credited to Austria-Hungary. England's share was for parts of machinery alone, and came to no more than £1,496: in agricultural and trade implements her record merely comprising 91 out of 1,128 sewing machines (750 of the rest were sent from Germany). Viewed in the light of history, this absence of English agricultural implements is almost pathetic. More than half-a-century ago, when Prince Milosh reigned at Belgrade, the Principality began to show its head as a European nation, and to receive encouragement from the Powers. Several European Sovereigns sent the Prince goodly gifts—as swords, chargers, jewelled orders, and the like. The Queen of England's present took the shape of a collection of all such agricultural implements and tools as were made in England, of which no less than fifty-three large cases arrived in Belgrade. Servia is an agricultural country; and Lord Palmerston was a Statesman with vision; and the Prince was delighted with the prospect of commercial relations with Queen Victoria's realm. *Now* our agricultural trade with Servia is nothing. The contents of those fifty-three big cases stimulated the development of Servian agriculture; and in due time they have been replaced by pieces made in Germany.

The neighbouring Principality of Bulgaria also helps me to adorn my tale. In '94 our export thither of machinery and tools was worth £9,480, but Germany's was worth £121,240, which is near thirteen times as much. As for the Transvaal, the Suzerain thereof is scarce allowed the chance to push her wares therein. The Government contract for the establishment of electric lighting in Pretoria forbade the use of English-made plant, and provided that only Continental machinery should be used. And this was

prior to "Jameson's Ride." Moreover, so favourable are the German shipping rates to South Africa that our manufacturers are actually trading *vid* Hamburg.

In the section dealing with cutlery I referred to a German triumph in the matter of sickles. It is the same all over South America, which has become the Happy Hunting Grounds for the German "drummer." Yet in South America there are fields which as yet not even the German "drummer" has completely ploughed. In Brazil, for example, there are Colonies up country where agricultural machinery is badly needed, and where energetic agents, whatever their nationality, might rely on doing good business. Will our English houses have the wit to tap these markets before the Germans? Probably they will *not*. These same Brazilian provinces are being largely colonised by Germans even now, and there will be a strange departure from German practice if touts from Chemnitz and Mannheim and Berlin are not very soon upon the ground. The English manufacturer might study the Consular Report on these Colonies recently issued by the English Foreign Office.[1] But I doubt if he will be at the pains.

In speaking of hardware, I have already deplored the competition of the United States. That competition is at least equally formidable in the matter of agricultural implements. In this department, the English camel finds it hard, and hard enough, to contend with American rivals. The advent of the German is like to prove the final straw.

Further

A word, ere I conclude, as to the buxom modesty of the commercial German's mind: it reckons for much in his country's success, and, as its presence is marked in the industries treated in this paper, it may appropriately be

[1] *Foreign Office*, '95. *Miscellaneous Series*, No. 367.

dealt with here. The Royal Commission on Technical Education *Report* for 1884 contains this statement :— "Every step taken for the improvement of German industries was influenced mainly by the desire to strengthen their position with regard to the rivalry of England. They magnify the industrial advantages of England, and consider it impossible to compete with England on equal terms."

An English manager of one of the largest works in Bavaria told the Commissioners that :—"Germany, thirty years ago, as compared with England, was simply 'nowhere,' but, placing English and German workshops side by side now, we should find the progress made in the latter had been simply marvellous. During all these years the Germans have been following the English step by step, importing their machinery and tools, engaging, when they could, the best men from the best shops, copying their methods of work and the organisation of their industries." This healthy disposition still prevails. The Society of German Machine Manufacturers has organised a special exportation branch for the sending abroad of engineers. The scheme has caught on, and engineers have already been sent to Chili, to Peru, and to the Transvaal, and, funds permitting, others will be sent to Argentina and Brazil.

IV

Textiles

General

Bishop Burnet declared that England would become, and remain, chief of the world for textiles. The former half of the prophecy has become true. There is none among her staple trades more thoroughly typical than those connected with the production of spun and woven stuffs. Throughout the middle ages the weavers are the dominant factor in the well-being of London city. In later years "the rich master clothier" of the West country is the envy of the merchant-world. It was in the Northern and Midland counties that the great Industry was born. It was the spinning-jenny and its descendants—the wonderful machines that revolutionised the manufacture of textiles, from calicoes to stockings, from carpets to sail-cloths—which changed the face of the countryside, and established the nation's greatness. Well-nigh all of them were made in England. Now the goods they were invented to produce are made—and that to an extent increasing daily—in Germany. She is not our sole rival. The East herself is menacing our cotton trade; Belgium has entered into competition with us on the ground of linen and lace; France is fighting us hard for the silk market; the world at large contends against us for pre-eminence in this or the other field. But in these pages the line is drawn at

Germany, and to Germany I must restrict my purview. Moreover, German antagonism is systematic, universal, deadly, and may be considered as a thing of evil and a thing apart. Also, it is imbecility to say that German textiles are insignificant in comparison to our own. Less than twenty years ago the production of German iron and steel was comparatively insignificant: to-day our English ironmasters are bewailing the folly which made them treat it as a negligible quantity.

I do not, therefore, apologise for calling attention now to the German endeavour to match with us in the textile market. Whatever the point of view, a warning is more useful than an obituary notice.

I propose to use the word "textiles" in its widest significance, and in treating of the several branches I shall show that the peril from Germany is unequally distributed among them, but that there is none in which it can be held non-existent.

Cotton

The Manchester man's commercial outlook is as gloomy as his native city.

"Turn whichever way we may," says an official organ,[1] "we are met with grimly significant indications that the condition of things is steadily going from bad to worse." Mills are either closing or short-timing and paying no dividends; capitalists are getting to a condition of what is uncommonly like demoralisation; while the cotton-spinner himself is given over to pessimism, and has heart for little save political intrigue against his rivals in Bombay. A return submitted of late to the Manchester Chamber of Commerce showed that only six out of some ninety-three spinning companies were at a slight premium while fifty-two were paying no dividends at all. A key to the mystery is found in the Export and Import Returns.

[1] *Textile Manufacturer*, October, '95.

In '81 England exported cotton-piece goods (white and plain) to the value of £37,169,517; in '95 her total was only £27,353,695. As far back as '72 her export of cotton-piece goods, printed, checked, or dyed, reached £23,360,694; last year it was only £19,424,928. She sent away £621,913 worth of stockings and socks in '82, and only £219,381 worth in '95. The prosperity of her sewing-thread industry is of later date; yet in '91 it was worth £3,254,193, but in '95 no more than £3,162,161. A consideration of moment is that this decline in values does not signify a corresponding decline in quantities. On the contrary, in some manufactures, with an actual increase in the exported weight, there is a decrease in the cash return. Thus, in bleached and dyed cotton yarn and twist, there was a quantitative rise between '93 and '95 from 36,105,100 lbs. to 40,425,600 lbs., with a fall in the value thereof from £1,862,880 to £1,832,477. Between '65 and '95 the average price per lb. of cotton yarn declined from 23·98d. to less than 8·85d.! 'Tis a good enough explanation of the vanishing dividends, the low wages, the lack of enterprise and initiative. I in no wise contend that Germany is chiefly responsible. Home competition, with over-production, are badly to blame; even worse to blame is India; Belgium is anything but guiltless; disaster is preparing in industrial China and Japan. But all these things make it only the more vitally important that we should consider with a most jealous eye the fact of further competition from Germany. In commerce, too, it is the last straw that induces the catastrophe; and it is evident that Lancashire is quickly nearing the limit of her load. As like as not the triumph of piling on the fatal last ounce is reserved to the Germans; as the following considerations tend to show.

Germany has not yet succeeded in foisting her cotton goods upon the world's market to a degree at all correspondent with her ambition in this particular line, or with

her achievement in others. For the present it would seem that her successes and her energies are for the most part centred in the home market, which she is carefully fostering by means of heavy duties on foreign goods. Thus, on imported cotton yarns and thread she imposes a tariff, which varies in amount, but reaches in the case of cotton thread for retail sale and some other articles, to £1 15*s.* 7*d.* per cwt.; in that of dyed cotton coverlets to £2 5*s.* 9*d.* per cwt.; in that of bleached and dressed curtain stuffs to £5 16*s.* 11*d.* per cwt.; and to £8 17*s.* 10*d.* in that of lace. The industry thus missed by Government, mills and factories and clearing-houses are springing up like mushrooms all over the Empire. A Consular report on the industry and commerce of Bavaria, after chronicling a period of general depression in Bavarian trade, goes on to state that "The fourteen cotton mills in the district of Schwaben erected 592,730 spindles during the year ('93), which shows an increase of 3,109 spindles over '92." A Consular despatch from Frankfort[1] notes that, "In the German shuttle embroidery industry such extensive orders have been received that a scarcity of hands is felt in the Saxon Vogtland": so that "various new plants are being erected even in the villages of this district, as it is hoped that the necessary hands will be here more easily obtained;" while "the curtain weaveries are so fully occupied that of late new hands have had to be sought." In confirmation of Sir Charles Oppenheimer, here is an excerpt from an English trade organ[2]:—"In 1860 there were in Saxony 27,000 hand looms, 500 hand warping frames, 300 French knitting machines, 4,200 English knitting machines, 50 power looms, and 1,300 sewing machines, giving employment to 32,000 persons . . . In 1892 the machines had grown by 12,000, while 3,000 hand machines had been added, the number of people

[1] *Foreign Office*, '94, Miscellaneous Series, No. 340, p. 34.
The Textile Manufacturer, October, '95.

employed being 50,000 . . . . The production daily amounts to 50,000 dozen stockings and socks, 15,000 gloves (*sic*), and 3,000 dozen vests, &c., of a yearly value of 5,000,000." Lastly, a pretty clear indication of growing prosperity is found in the increased import of raw material: the German spinners took 166,771 tons in '85, and 277,831 ten years later. Do not imagine, however, that the German houses are content with clothing Germany. Their travellers are indefatigable abroad, and indefatigable to good purpose, particularly in Russia. A London journal of repute has told, of late, how the trick is done. It seems that many years ago England was exporting vast numbers of Turkey-red handkerchiefs to Russia. They were chiefly used as head coverings by the women, and were oblong in shape. The wearers would have liked them square, and their wish was made known to Lancashire. Lancashire, however, considered herself the better judge: especially as the change from oblongs to squares meant new machinery. So the Russian girls continued to curse their headgear, till in time their sorrow was turned into joy by the advent of a German bagman. Their heads are still gay with crimson kerchiefs; but those kerchiefs do not come from Manchester. Yet another country where Germany is beating us out of the trade in cottons and woollens both (to say nothing of cashmeres and dress materials) is Roumania. To our own dominion of Canada she sent (in '93) $51,000 worth of cotton stockings alone. Nay, she exports to England herself; and while her cotton manufactures cost us £235,547 in '91, in '94 we bought them to the tune of £462,801.[1]

A study of her cotton statistics for the last decade reveals some curious fluctuations. They may not make

[1] In connexion with the German-English trade it must always be remembered that much of it passes through Holland, and that the big sums credited in the Board of Trade returns to the Dutch Kingdom are to a great extent of German origin.

for lucidity; but they certainly denote a great advance in the industry, and that despite the development of competition in the East. There has been a general increase in the quantity of exported cottons, and in some cases in the value received. Take, for example, the wares comprised under the heading of "Baumwollengebe, Dichte, Gefärbt, Bedrucht"; and you find that the total export was valued at 40,100,000 marks in '85, and at 49,200,000 in '94. (In '93 the figure stood at 63,600,000.) Again, under "Posamentier und Knopfmacherwaaren," you have to note a rise from 12,700,000 marks in '85 to 21,100,000 in '94. What wonder that the *Handels Museum* (20th September, '95) declares that the whole textile industry is in so satisfactory and so healthy a condition that the outlook has not been so promising for many years, and that the trade is just entering upon a remarkable stage? As far as hosiery is concerned, there are nations which may already be regarded as German preserves. In Macedonia the hardy natives (according to investigations conducted for an Italian journal)[1] are clothing themselves in Jaegar waistcoats and drawers, jerseys, socks, &c.—all made in Germany. The *Bollettino* adds that these habiliments cost very little, and are very poor in quality. Not much, it is added, comes from England; and the statement is borne out by the Board of Trade Returns, which show for the whole of Greece a fall in apparel and haberdashery from £7,646 in '91 to £2,238 in '94; in cotton yarn from £63,028 to £39,215; and in cottons, entered by the yard, from £406,855 to £297,621. In Italy we are losing ground in the same way. Messrs. Gutteridge's report on the trade at Naples for the autumn of '95 states that "German cotton hosiery from Chemnitz has taken the place of British-made goods, being smarter looking and more saleable."

That Germany means business in the cotton industry is

[1] *Bollettino di Notizie Commerciale.*

further proved by (1) the Governmental appointment and despatch of a delegation of experts to the United States for the purpose of investigating the qualities of American raw cotton, and determining whether or not it is more profitable to German spinners than cotton grown elsewhere; and (2) the late reduction of railway rates on the Austrian and Saxon lines upon cotton from Bremen. She is also using her colonies for the production of cheap material; and the cotton exported from German East Africa is said to be of good quality, the price of the best being $3\frac{1}{2}d.$ the English pound as against $4d.$ for best Texas.

In connexion with our export of printed goods, it is well to note that the Board of Trade Returns convey a somewhat misleading impression as to its extent. The practice of sending cotton goods to be printed in Germany inflates the official figures, inasmuch as the stuff thus dealt with appears some twice in the list: (*a*) *un*-finished, as an export to Germany; and (*b*) finished, when it is re-imported and put upon the market as a genuine export. In this way we are deceived as to the real value and extent of our foreign trade, at the same time that we waste a very appreciable amount of labour in shipping and re-shipping, and plunder, or starve, our own tradesmen for their German rivals' benefit.

I am dealing with none but German competition; yet I cannot close this section without at least denoting the formidable nature of the Belgian peril. Indeed, as the countries are contiguous, and their respective industrial achievements are similar at many points, to take in Belgium is scarcely to digress. But let the following table—of some Belgian exports to England during the first seven months of the quoted years—suffice:—

	'95.	'94.	'93.
	kil.	kil.	kil.
Tissus de Cotons blanchis	152,150	182,830	261,661
Tissus de Cotons teints...	279,429	359,225	488,206
Tissus de Cotons imprimés	27,229	33,928	38,987
With these others in money :—	fr.	fr.	fr.
Tissus de Coton-Bonneterie	13,995	5,000	83,614
Tulles, Dentelles, and Blondes de Coton	54,185	596,554	702,661

This to England alone! A like scale is in operation all over the world.

Linen and Jute

Linen is in far worse straits than cotton; for whereas in '64 (if we went back farther, the case would show darker still) our export of home-spun linen yarn was valued at £2,991,969; thirty years later it was worth no more than £939,202. This is to say that the millions of a generation ago are clean gone, and even the odd thousands are the worse for wear. Yet Ulster is reckoned thriving! Nor are manufactured linens much healthier than unmanufactured. In '64 the export of white or plain fabrics was declared at £6,614,284; in '94 at £2,895,100. Sticking to the same years (though in this instance, '65 was 20 per cent. better than '64) you will find that in linens—printed, checked, and dyed—there is a drop from £598,934 to £377,907; and in sails and sail-cloths one from £407,181 to £189,491. A provincial critic has made merry ('twas the Christmas season) over my "Cassandra-like wail on the decline of British trade,"[1] on the ground of what he described as "the satisfactory commercial results of the last six months." I would recommend this buoyant gentleman to take the figures I have just quoted, with those for '95, and calculate how many "good years" are

[1] *Birmingham Daily Post*, 2nd January, '96.

wanted to restore our linen export to the level of thirty years ago. To make the work a practical contribution to economics, let him also allow for the intermediate periods of depression, and compute (out of past experience) the fall to depths yet deeper which those normal periods —for the "good years" are getting ever more and more abnormal—will occasion; and I will make him a present of the '95 statistics here and now.[1] Our export of linen yarn in '95 was worth £965,467—that is, was better than '94 by upwards of £26,265: this against the fall of £2,052,767 since '64! Of plain manufactures we exported to the value of £3,490,704 in '95—an increase of £595,604 over '94: this against a fall of £3,719,184 since '64! For printed, checked, and dyed goods (which now include damasks) the '95 exports were better than those of '94 by £21,827: this against the fall of £221,027 since '64! In the matter of sail-cloth last year was better than '94 by as much as £630: this against the fall since '64 of £217,690! It is useful to reflect that between '90 and '94, our import of German manufactured linen increased from £85,281 to £112,111. In this field also Belgium scores, and scores heavily; for in the first seven months of '93 her exports to England alone of "Tissus de Lin, de Chauvre, and de Jute—Toiles unies et croisées," amounted to 317,744 kils.; and for the first seven months of '95 (the "Revival" year) they were 520,072.

Not, however, to overstate my case: let me say at once that the *débâcle* in the linen trade is not wholly the effect of foreign competition. The craze for cheapness has a great deal to do with it. Other materials are largely superseding flax. You may still encounter men of Ulster clothed in linen shirts; but it is plain that, unless there

[1] I think it possible the critic may need this help, for on 2nd January he was possessed by the delusion that the latest available returns of the German export trade were those for '93: though in the article for which he rated me I had furnished him with quotations of a year later.

come a great revulsion in the general taste, the cheaper wares must triumph all along the line. It is for this reason that I have coupled jute with linen, at whose expense, and wool's, the great advance of jute has been made. There is already a strong demand for napery spun from jute, and that demand has but begun. (The pretty, flimsy jute napkin is everywhere; and in many American hotels the tables no longer gleam with damask, but are covered with cloths which need no laundering, but are so cheap—they are bought in huge rolls and cut off as required—that to renew them is more profitable than to wash.) Our own mills are doing a part of the trade in these fabrics, and the official returns, *taken by themselves*, look fairly cheerful. It is other-guess work when you take them (as you must) in connection with linen. In '64 our export of home-spun linen yarn was valued at £2,991,969, and that of jute yarn at £114,503; in '95 the first had sunk to £965,467, and the second had risen to £356,118. In '64 our export of home-made linens brought in £8,172,813; and our export of manufactured jute £356,764. In '95 our export of home-made linens was worth no more than £4,082,559, while our export of manufactured jute was £2,232,427. That is to say, on our combined exports of linen and jute yarns we are £1,784,887 the worse for the last thirty years, and on our export for the manufactured articles £2,214,591. Promising, isn't it?

And are we getting, and are we likely to keep, a command of the jute trade at all proportionate to our lost supremacy in linens? Between '85 and '95 the value of the German export of jute ran up from 200,000 to 2,337,000 marks. In other terms, the German jute trade multiplied more than elevenfold in eleven years. Our export, it is needless to say, shows no such increase; for in '85 the total (yarns and manufactures both) was worth £2,176,387; and in '95 it was worth but £2,588,545. With a lift of over 1,100 per cent. on the one hand, and a lift of less than 19 per cent. on the other, it is not sur-

prising that the Union of German Jute Producers report that in some textile factories the dressing works have had so much to do that they are unable, for all their capacity, to supply the demand; that there is no fear that the German trade will suffer like the Scots; and that the Erz Mountains trimming industries, long depressed, are glutted with orders.

Comment may seem impertinent after such figures as these. All the same, it cannot be amiss to fill in the picture with some pertinent facts. Here is one. Between '90 and '95 our export of jute yarn to Germany fell from £59,820 to £7,694 (in '94 it was £19,728); while that of manufactured jute (piece-goods) went down from £189,222 to £16,924 (in '94 the figures stood at £77,057). On the other hand, so swift has been the rise of the German industry that Hamburg, the port whence most of the raw material is distributed, bids fair, in respect of jute, to vie with London herself. In effect, the German city imported 14,950 tons in '83, and 83,566 in '93, while in the Thames the import fell in the same period from 137,631 to 101,325.[1] Dundee has fallen likewise from 205,809 to 175,286 tons.

I shall not relate the loss of our trade country by country. A couple of cases—Italy and Turkey—will suffice. In '90 we sent to Italy jute in piece-goods to the value of £6,886; in '95 to the value of £713. Linen yarn for Italy went down from £24,771 in '90 to £7,456 in '95. Linen manufactures for Italy fell from £45,391 to £31,736. Our exports to Turkey including Cyprus in the same period are figured thus:—Jute in piece-goods sank from £80,602 to £48,393, and linens (entered by the yard) from £29,335 to £12,772. Now, these cases are taken at random, and are typical.

Are you therefore disposed to conclude that the quality of our manufactures has degenerated, and that the world is finding us out? It is not so. Irish linens are still regarded with as great respect as is Sheffield steel. One cause of their

[1] *Foreign Office*, '94, Annual Series, No. 1,478.

unaltering superiority—luckily it is permanent—lies in a climate where moisture conduces to fineness in yarns. This is an advantage for which our Continental rivals must for ever sigh in vain ; yet they advance and we recede. A point to note is, that our makers do not concern themselves with artistic finish. Here you come at once on an origin of commercial decay. We slight the German's artistry, as though care for appearances were a kind of foppery. Now, this contempt for the æsthetics of manufacture may not matter in certain industries : contractors, for instance, have not yet come to look at steel girders with an eye to their artistic effect, nor are town-surveyors deeply concerned for the elegant finish of their drain-pipes. In the case of textiles—which are essentially decorative in aim and effect —such indifference is obviously not less foolish than strange. It is none the less rife for that. A gentleman, important in the Belfast linen business, with an extensive and peculiar knowledge of the trade in general, told the present writer that Ireland, were she so minded, could easily vie with Germany in design. He admitted that Ireland is not so minded : that she had rather trust in Providence and her ancient reputation ! Meanwhile, reports are crowding in from every country in Europe, to the effect that our indifference to form is working us irreparable wrong. It is scarce to be believed that we fail to apprehend the essential importance of design and finish in hosiery and handkerchiefs and tablecloths. But we do.

I shall treat of technical education in its place. I would point out here, that in such crafts as those now under discussion, the German has advantages in this respect which constitute a special menace to ourselves. In discussing German competition with me, a Belfast man, who knows both the United Kingdom and the Continent well, laid great stress on the importance of technical education in the linen industry. To it, indeed, and to longer hours of labour, he credited the German advance.

Of course, the latter cause is chiefly operative in the mechanical departments of mill-work, where the "intensity of labour" argument does not apply, and where the longer a girl sits tending her machine, the greater her productivity (the German working day is two hours longer than the Irish; but the Short Hours Movement is making sensible progress). But there are other factors. The machinery used on the Continent is often better and newer than our own.[1] The effect of this will become more manifest with time; for the Irish and English manufacturers are conservative and niggardly. Of course there are, and there ever will be, plenty to urge that Germany will never beat us, because her manufacturers lack our capital; but they are, and will ever be, the victims of a confusion of economic terms. If by "capital" they mean money, no doubt our *entrepreneurs* have the advantage, and much good it seems to do them. But if "capital" be "wealth used for the creation of other wealth," our advantage is not so manifest. Again, in Germany, the mills are established in out-of-the-way places, where water is plentiful and labour cheap. More: in linen and in jute, as in all the other manufactures, the home industry is heavily protected. For instance, dyed druggeting of jute or Manilla hemp, imported, is penalised 6*s.* 1*d.* per cwt.; while unbleached tissues of linen, hemp, or jute, above 120 threads, pay £1 10*s.* 6*d.*, and thread lace £15 4*s.* 11*d.*

Indeed, almost the sole respect in which the Germans have *not* the pull of us is that of Wages. On the whole, wages in textile Germany average pretty equally with wages in textile England. Here and there, however, they are actually higher; and I have been told of German factory girls who clear their 14 marks a week for just

[1] It is merely in the irony of things that they come to us for it. For example, side by side with the Belfast mills we have machine manufactories, employed in turning out the best and newest machinery; and their best customers are—the Continental spinners.

such work as in Belfast is done for 6*s.* to 9*s.* The German hours are but little longer than the English, and are in process of reduction. My informant, who was specially qualified, and was of a cheerful disposition withal, quoted these higher wages as one reason for the faith in him that Germany would never beat us! This is in the right Gilbertian vein; and at any rate, it is a "nasty one" for the Cheap Labour-mongers.

Silk

It is said that there are better days in store for British silk: so that the trade journalist is often moved to write under such headings as "The Revival of Macclesfield." It is true, too, that that most inconstant and volatile element in commercial speculations—the Fashion—would seem to be reverting to the generous use of silken fabrics, and that the Trade reports a certain activity in their make. But in this connexion the word "Trade" has an international significance. The statement is inaccurate as regards England, where, instead of advance, there has been retrogression. Thus, for the last five years the Export Returns (our sure and certain guide) work out as follows:—

THROWN, TWIST, AND YARN SILK.

'91.	'92.	'93.	'94.	'95.
£	£	£	£	£
516,519	322,894	383,025	342,534	296,788

SILK MANUFACTURES.

£	£	£	£	£
1,744,645	1,655,310	1,514,803	1,222,356	1,432,002

From these it is plain that the sole foundation on which the prophets of good tidings base their cheer is an increase of some £210,000 in the export of manufactured silk in

'95, as compared to '94; but, as even '95 shows a decrease on '93, and '93 again on '92, and so on, the manufacturer who faces the situation with a smile must have an easily-contented mind. In the department of unmanufactured goods, our last year's trade was about half the trade of '91. If you extend your survey—and, having regard to the ancientness of silk wear in this country, you can do no less—you will find that under the heading of "Thrown, Twist, and Yarn," the home-made export was worth £1,894,595 in '72, and is now shrunk some six- or seven-fold in bulk. In '82 we sent away home-made fabrics to the value of £2,692,275. Six years after we fell short of that by some thirty thousand pounds; and ever since the fall has been continuous. The worst, too, is that this does not mean that we wear less, as well as weave less than we did, for our import has been as steadily growing as our output has been dwindling:—

——	'91.	'92.	'93.	'94.	'95.
	£	£	£	£	£
Broad Stuffs ...	5,451,981	5,891,507	6,304,777	7,057,139	8,986,663
Ribbons	2,676,420	2,748,887	2,513,516	2,772,369	3,008,810
Other silk manufactures	3,051,187	2,771,869	2,910,113	2,919,524	3,015,234
	11,179,588	11,412,263	11,728,406	12,749,032	15,090,707

In '95 (that is) our bill for foreign silks was £3,911,119 more than in '91: which is near thrice the worth of our total export in '95.

In this industry, of course, the premier maker is France—her most formidable rivals being Holland for broad stuffs, and Belgium for ribbons. I shall, however, leave the enormous trade of all three for granted in the reader's mind, and only remark, that it behoves that manufacturer who is already out-made and out-sold by more capable firms to have an eye of peculiar jealousy for new rivals,

lest what little the old have left him, that also be taken away. Those who have watched the course of German industrialism know well that the comparative smallness of the German export trade in silk is not to be accepted as a criterion of future developments. Thus far the operations of Germany in the silk market have been characterised by a tendency to fluctuation which contrasts with her steadiness on other lines, and makes the work of forecast a little difficult. But a broad survey will justify the conclusion that the note of the German silk trade is expansion. Having regard to the aforesaid tendency I shall abstain from worrying my reader with statistics; for unless I made my tables impossibly complex and extensive they might seem "cooked," and would certainly be profitless. Suffice to say that in '94—a year in some ways specially hard on certain branches of the industry—Germany exported silk to the value of 102,500,000 marks, and that that sum represents a trade near four times greater than our own.

A "Silk Association of Great Britain and Ireland" has been formed for the purpose of fostering the trade, and there is a wide field for its energies. Let me venture to indicate a certain direction in which it may employ them with profit. It is just now the fashion for the maker to complain that he cannot get a sufficient supply of English-woven brocades and the like, and that he has to put off his customers with foreign goods. On the other hand the maker insists (by the medium of his trade journals) that Englishwomen will buy only Continental silks, and that in England, therefore (to quote *The Textile Manufacturer* for the 15th November, '95), "no attempt has ever been made" to produce fabrics worthy to compete with "the very superfine goods turned out by Continental designers." The Silk Association would do well to reduce these conflicting arguments to a common denominator of joint effort; for, while our people are wrangling the point among them-

selves, the foreigner is quietly booking the orders. Indeed, so far as the existing "Revival of Macclesfield" is concerned, it seems due to the fact that of late the Lyons factories have had a great deal more in hand than they can do. It is not exactly the proudest of positions; but with England this is the age of minor mercies. We must be thankful for what we can get, at the same time that we go on hoping—hoping against hope—that our people know enough to establish and improve such footing as they may have got—shunning, above all, the peril of easy confidence (signs of which are even now not wanting in a revived Macclesfield), but ever reflecting that in any case the late expansion is a poor thing in comparison to the bygone glory, and that the upward movement is being used for all it is worth by their rivals abroad. Meanwhile, the fact that most of the novel designs now on the market are from the Continent, makes against the hope that England is using the poverty-stricken opportunity she has.

The wonderful advance of Belgium is at least as remarkable in silk as in other textiles. For example, her export to England alone of "Bonneterie, Passementerie, et Rubanderie" was three times greater in the first seven months of '95 than in the first seven months of '93; while that of "Tulles, Dentelles, et Blondes de Soie" had risen from 3,700 to 28,424 francs.

Wool and Worsted

Here is another industry exposed to special peril by reason of late improvements in trade. The cheeriness of the woollen manufacturer is certainly pardonable; for he has survived a period when only gloom was possible. In the Report of the Bradford Chamber of Commerce for '94 the position was thus resumed:—"The year 1894 will long be remembered as one full of disappointments for the wool trade generally, and the Bradford trade in particular. . . .

Traders were anxiously waiting the passing of the United States Tariff Bill, expecting that the result would be a speedy resumption of business with that country. . . . When the Bill became law business became even worse than before, and prices gradually declined, until some qualities, notably merino sorts, are now quoted lower than has ever been experienced." In '95 the expansion came, and manufacturers have abounded in happiness and orders ever since. Here it is that the danger comes in. The expansion is a result of two principal factors,—the re-opening of trade with North America (a most uncertain and fluctuating market) and a change of fashion in favour of bright dress fabrics. With regard to the former the increase, substantial as it has been in the trade with the United States, is no monopoly for Bradford. Germany also has shared; and those who know the German genius for permanently improving an opportunity will see in this good reason for disquietude. Where the Englishman is often content to beam on his fattened ledger, and give himself an easy time and his wife a new carriage (in the meanwhile reposing comfortably in the bosom of a beneficent Providence), the German grapples the new chance with hooks of steel, and turns it with conspicuous success to the permanent profit of his business. This is shown by the strange and terrifying case of the United States. In the fourteen years between '80 and '93 our exports to the States of woollen dress-goods have fallen from 40,620,256 square yards, valued at $8,719,721, to 27,503,999 square yards, valued $4,588,009; while Germany's have risen from 3,024,879 square yards, valued at $759,900, to 20,246,819 square yards, valued at $4,464,688. Our proportion of the total trade was 56·5 per cent. in '80, and 28 per cent. in '93; Germany's was 5 per cent. in '80, and 27 per cent. in '93. But the '95 expansion was not worth much to the Bradford manufacturers apart from the American trade and the boom in mohair and lustre goods. The export of manu-

factured goods to European countries was actually down, and was balanced by an almost similar import from the Continent.

That I am not taking too pessimistic a view, the following figures will, I think, make clear. Our import of foreign woollens has grown out of all proportion to our growth in population. Our bill for woollen rags has risen from £336,107 in '61 to £730,023 in '95 ; that for Berlin wools and fancy yarns (practically all German) from £58,910 in '61 to £216,435 in '95 ; that for yarns for weaving from £306,648 in '61 to £1,825,590 in '95 ; that for all other woollen manufactures from £1,419,336 in '61 to £10,976,828 in '95. In the face of this enormous increase in the space of a single generation Yorkshire has surely little reason to rejoice ? The yarns might be cited as raw material for British manufacture ; but to do so were to beg the question ; they are partly manufactured articles, and the processes they have already undergone are processes which form an integral part of English industry. Note, too, that the biggest increase of all—an increase of nearly 700 per cent. —is under the heading of Manufactures ! The woollen and worsted yarns for weaving come chiefly from Belgium ; but the yarn for fancy purposes—which may be reckoned as fully-manufactured — is mostly made in Germany. Germany and Holland (it is impossible to separate these countries) are the main vendors of our imported Woollen Cloths, and second only to France in Woollen Stuffs ; in the unenumerated list they are an easy first.

Now for a dip into the history of German woollens. In the Sixties there was no German Empire, so it will serve our purpose well enough to start from '85. Now, German woollens have fluctuated, even as German silks have fluctuated ; but German woollens, like German silks, tend generally upwards. In '85 the German export of "Gekämmte Wolle" was valued at 4,900,000 marks : in '95 at 19,237,000. In felt (the German import of

which has never exceeded 100,000 marks) the German export of the principal classes was worth 2,600,000 marks in '85 and 5,340,000 in '95. In hosiery, lace, buttons, &c., substantial increases are likewise recorded. An extract from the Board of Trade Returns will show the value of the German export to England alone :—

Woollen Manufactures.

'90.	'91.	'92.	'93.	'94.
£	£	£	£	£
670,444	767,284	774,483	741,776	907,569

Yarn for Fancy Purposes, including Berlin Wool and Zephyr Yarn.

£	£	£	£	£
177,547	191,713	181,895	185,894	197,224

Yarn for Weaving.

£	£	£	£	£
58,260	66,893	73,562	100,249	111,749

Our spinners confess themselves unable to compete with the Germans, the French, and the Belgians in the spinning of Botany yarns in certain counts ; but as English Botany yarns have the best reputation, it seems a pity that the English spinners should not follow the advice of *The Bradford Observer*, and "give the matter earnest attention." But, indeed,—with individual exceptions, of course—our people are the victims of a chronic indisposition to keep abreast with the times. One instance of what I mean must suffice. It is an extract from a report of the Bradford Chamber of Commerce :—"Official notices of Exhibitions to be held at Antwerp, Bordeaux, Lyons, Milan, Santiago, and Hobart were received during the past year, but as Bradford manufacturers and merchants have recently shown an aversion to taking part in further exhibitions, no action was taken in the matter." Compare

this torpor and the energy and intelligence with which the Germans seize such opportunities for bold advertisement. It is idle to say that business is not furthered by participation in exhibitions; if proof to the contrary were needed, it might be found in the great expansion of German trade with the United States which followed the Chicago Exhibition, and the eagerness with which the Germans availed themselves of that show. If it be a question of commercial dignity, one can only hope that such "dignity" will be pocketed ere the time comes when it is the only thing our manufacturers have left to pocket. Yet Bradford believes, notwithstanding, that by exhibiting in years gone by she has lost considerably more than she has gained.

Another point to note is that the paragraphs in the trade journals devoted to new inventions are records, to an ominous extent, of German skill. It is scarce possible to glance through one of these prints without being informed that "a variety of worsted having a high lustre and feeling like silk, has lately been made in Germany"; or that "a German has patented a process for manufacturing velvet leather which (it is claimed) will become an important addition to that class of articles which are useful for personal attire." Yorkshire should remember that woollen and worsted goods (particularly when they form articles of feminine attire) are not as the laws of the Medes and Persians, and that variety and novelty are *par excellence* the note of success in the weaving trades.

A Suggestion

The Iron and Steel Trades, brought face to face with disaster from foreign competition, instituted special inquiries: and good may even now result from their action. Why are there no Committees of Investigation for textiles? The German raider has done much against these industries, and threatens more. Is not this the time to strike a blow

for salvation? The scheme of the Blackburn Chamber of Commerce for sending a mission to China is an excellent one, and, being promoted by the Textile Trades, may be regarded as in a way a specialisation of my own suggestion. But what is really wanted is a Committee of Investigation, expert and representative, to examine into the whole matter of Continental methods, successes, prospects. It might do much to re-establish our supremacy. Of the several points at which such a Committee might profit by inquiry, I shall dare to indicate two:—the foreigner's superiority in design; and his suppleness in adapting himself to the needs of whatever public he may take it on him to supply.

V

CHEMICALS

The Weather-Glass of Commerce

The Chemical Trade is the barometer of a nation's prosperity. Thus Lord Beaconsfield; and having regard to the infinite ramifications of that trade, and to its irresistible tendency to extend to every department of production and consumption—M. Berthelot will have it that our food is soon to be synthetised from coal-tar—one is not disposed to quarrel with the aphorism. The discomforting significance of the appearance of Chemicals in this Black List of mine will, therefore, be at once apparent; yet, if they were omitted, my survey of the effects of German competition would be absurdly incomplete. Indeed, it is no exaggeration to say that Germany is a more formidable rival, and has already given us a sounder beating in Chemicals than in any other field of Trade, not even excepting Iron and Steel. The treatment of chemical products is becoming one of the mainstays of industrial Germany, as those huge factories—at Elberfeld, at Frankfort, at Leipzig, and elsewhere: factories paying dividends up to 28 per cent.—exist to show. In England the industry in several branches is little better than a Bottomless Pit for capital: in proof whereof I may instance the disappearance of many of the smaller manufacturers and the sore straits of those syndicates in which some businesses are merged.

It is a curious coincidence that the application of some chief discoveries which have revolutionised the Chemical Trades should correspond in time with the Franco-Prussian War. The German Soldier established the political Empire ; the German Chemist of the early Seventies went far to do the same for the industrial State. No happier point could have been devised for the beginning of a Great Industry than the moment when Germany, flushed with victory, and glorying in her new-found strength, went forth to conquer the world in trade, as she had conquered France in arms. Now, in so far as Chemicals are concerned, there is no invincible reason why the New Knowledge should have profited her alone. There is only the fact that she seized her occasion, while England let hers slide. Why and how these things were done will appear as we go.

"Chemicals" may conveniently be divided into five chief divisions :—(1) Crude Drugs and Medicinal Preparations ; (2) Heavy Chemicals ; (3) Fine Chemicals ; (4) Anilines and their Derivatives ; and (5) Essential Oils. I shall treat them separately under these headings ; but to give an accurate general idea I must correlate their several degrees of consideration. The scientific revolution is the cause of this necessity. To consider, for example, the progress of the trade in Crude Drugs and Medicinal Preparations apart from the trade in Fine Chemicals, or even in Anilines and their Derivatives, were to get a misleading view of the situation. Indeed, it is a vital and a growing necessity for us to go still farther. The new discoveries are thrusting into departments and encroaching upon industries to which the Chemical Product had been hitherto a stranger. An obvious illustration is the supersession of Vegetable Dyes by Anilines. Unless you are wearing a blue shirt (perhaps not even then), and are clothed in homespun and home-dyed tweeds from the Western Isles of Scotland, you are safe in concluding that your every coloured article of apparel has seen the inside of an aniline

dye-vat. Equally obvious is the growing use of Chemical Manures. The High Farmer is no more satisfied with the "muck" wherewith his fathers fed the soil: chemical aids are a prime need in intensive agriculture. Such novel developments make it all the more important that England should see to her share of the trade. The growth of that trade in Germany does more than menace England: it strikes all round, and that in ways of which the Custom House Returns tell nothing, save to the careful student alone.

My arrangement of the Chemical Trades is probably as good as could be devised; but it is vitiated by the way in which the several sections overlap each other. Citric Acid, for example, is, on the one hand, an ingredient of mineral waters, and, on the other, is used in the manufacture of Manchester goods. This is an additional reason for regarding the Chemical Industries as a homogeneous whole, varied and diverse as they seem.

Crude Drugs and Medicinal Preparations

Under this heading I am rather concerned with Trade than with Manufacture. For the major part of this century London was the great market for Crude Drugs from the Tropics and the East. To London they were sent in shiploads, either for trans-shipment elsewhither, or for distribution after refinement and the like. And the trade is either going or gone. The beginning of the change may be dated from '69: it coincided with the entrance into active life of the Suez Canal. The opening of the Canal and the laying of the cable did much to further it, by substituting direct trade between European consumers and Oriental producers, for indirect trade *viâ* England. It has proceeded apace.

Indeed, the wreck in some branches of our Export of imported merchandise is more startling than anything in the annals of British Commerce. Here is an instance. In '82 the declared value of our export of Peruvian Bark

was £903,333; in '95 it was £40,553. The difference in quantity is not so great as the difference which overproduction and competition have made in price; but there is little consolation to the trader there. Once the Cinchona Bark came all to England from South America. Then Ceylon and Java were planted, and it came from the East—mostly to London still. During the last few years it has been found that Ceylon growers cannot compete with Java, which boasts a better soil and a more scientific method. So the British Possession is knocked out; and the richer article from Java dominates the market—and the richer article goes all to Amsterdam. Up to three years ago London had a famous fortnightly sale of Cinchona: she has a monthly one now, and its size is about a fourth of that they hold in Amsterdam. And Camphor is fast going the way of Bark. Fifty years ago English Camphor was supreme throughout the world. Now (though England maintains her reputation for excellence) a very large part of the camphor-refining trade has gone to Hamburg; and once Japan makes headway with the refining factories which she has started of late, the English trade will speedily go over to the Dodo and the Great Auk.

Or take the case of Opium. In '84 the trade was worth £371,225, in '95 it was worth £94,671. The Chinaman, (that is) consumes as shamelessly as ever; only England doesn't supply the drug. In other articles her trade has declined from a total of £510,548 in '80, to one of £438,569 in '94. So, too, with her Dyeing and Tanning Stuffs. In '67 the computed value of her Cochineal, granilla and dust, was £446,449; in '95 it was £29,419. Her trade in Cutch and Gambier was at its height in '83, when it totalled £319,267; in '95 it had dwindled down to £200,435. Her best in Indigo was as far back as '71, for which year she declared a value of £2,527,979; but by '95 that value had shrunk to £954,227. Her Madder fell from £10,653 in '71 to £2,334 in '81; her Madder-Root from £10,057 in '68 to £6 in '81; and now both articles have

lost their miserable individuality, and have to be lumped with Garancine and Munjeet, to produce (in '94) the very magnificent total of £1,838. (In '95 the lot is still further debased, and figures among the Unenumerated. The English trader in Guano has done little better. His business was worth £653,928 in '76, and only £12,617 in '95. Our terrific losses in Vegetable Dyes and Tanning Substances are explained by the substitution of Aniline for Vegetable Dyes, of which I shall speak later. With regard to drugs, however, there is a special explanation, which I may as well give now:—it is the relative cheapness of Antwerp, Hamburg, Rotterdam, and other ports in Germany and the Netherlands. The English drug-trade cannot endure the high dock-charges of the Port of London. The ruinous quality of these charges is not felt to the same extent in big trades having their own wharves as it is in the Drug Trade, which is a matter of small quantities. Every one is agreed that the London docks are overbuilt and overcapitalised; and there are who say that their management leaves much to be desired. Be that as it may, the charges are greatly in excess of those exacted at the Continental ports—(in some cases they are twice as much)—and the Drug Trade has not stood the strain. Merchants have essayed to meet it by sending lighters alongside the ships in port, and so avoiding that ruinous passage across the quays; but the device, though sanctioned by Act of Parliament, is like to be knocked on the head by the Companies' trick of entering into agreements with the ship-owners, whose captains are ordered not thus to disembark their cargoes.[1] In the frustration of this trick the London Drug Merchants place their last hope of recovering lost ground; and in view of the active and growing rivalry of Hamburg, Antwerp, Hâvre, and the rest, this hope looks dreadfully like despair. I quoted figures in my First Paper

[1] According to latest information the ship-owners are objecting to enter into these agreements.

to show that the great and rising port of Hamburg is a standing peril to English trade, and I need not here oppress my reader with further statistics in proof. What, however, I must insist on, are the facts: (1) that the Dock System there, and at Antwerp and Rotterdam, makes traffic much cheaper than traffic at London; and (2) that the charges of the Shipping Companies trading thither favour the Continental merchant. Herein consists the explanation of much that has befallen the English Drug Trade. For the rest we may look to German "push" and English sloth. The German Druggist never rested till, by hook or crook, he had wormed out the addresses of our producers; and Asia and South and Central America are dotted thick with German agents now. This zeal has eaten us up; and when they are not sweating with planters in the Tropics, they are "learning the business" in England, from druggists who are getting plenty of time for the imparting of useful knowledge.

Heavy Chemicals

Alkali

The industries technically known as Heavy Chemicals group themselves largely round Alkali and its products. Down to late years, Alkali was a peculiarly English industry. We manufactured not alone for ourselves but for the world at large, as may be gathered from the fact that in '73 our Alkali Export was worth near three millions sterling. How we have fared since that year is told by the following table:—

'73.	'83.	'93.	'94.	'95.
£	£	£	£	£
2,929,006	2,124,962	1,857,928	1,630,948	1,560,140

Here we are confronted with the damning fact that, whereas fresh uses and (owing to the growth of manufactures abroad) fresh markets for Alkali Products are continually being found, the export of the greatest Alkali

Trader in the world was last year of little more than half its value in the early Seventies. Nor do the latest years show any signs of recuperation. The decline since '91 has been continuous; and that it had no connection with any "general depression" is shown by the failure of the '95 Revival to help it one whit.

Down to some five years ago, the trade was in the hands of a number of different firms, all struggling along under the adverse influences of competition and the Middleman. In '90 about forty of these houses—as a last hope of salvation—combined themselves into a huge concern, with eight millions capital, under the name of the United Alkali Company. Internecine competition was stopped, the Middleman was abolished, and better times were confidently announced. The Company, in the first two years of its existence, managed to pay a dividend on all its shares; then it ceased to pay on the ordinary until '95, when a dividend of one per cent. was declared; but already in '96 it has had to close more than one works. Its utter failure to stay the ebb of a national industry is shown by the steady fall in its lifetime in a national export. That it is in low water is not due to foreign competition alone; for the rivalry of Brunner, Mond, and Company,[1] with other firms, among which may soon be reckoned the new Castner-Kellner Company (already building works in England), is largely responsible. Largely too, is foreign competition: Sweden, among other countries, is competing heavily with England. The electrolytic processes in use there are damaging the United Alkali Company's trade in Chlorate of Potash, which is used in the Swedish match factories; and—what is worse—Swedish Chlorate of Potash found its way last year to the

[1] The fact that Brunner, Mond, and Company, the one really successful firm in England, is practically an international concern, puts it in a separate category from the genuine local English industry. The ownership of certain patents, with certain other causes, sets this house beyond the reach of foreign competition; but it is a deadly rival to other English Alkali Works.

English market. The Tyne, too, is in no better case than the Mersey. It is exactly a century since the Leblanc Process began to be worked at Newcastle. In 1799 the make of Soda-Crystals was about 10 tons; in 1830 it was over 3,000 tons; in '62 it was 51,000 tons; and in '82 it was 104,000. The weight of Salt decomposed in '82 was 188,000 tons; but in '93 it was only 90,963. Again, in '30 there were four Alkali Works on Tyneside; in '73 there were twenty-four; now there are five.

I have mentioned Sweden as one formidable competitor. Another is Switzerland. But I need not travel beyond the familiar field. That our neighbour, the German, is more than equal to the task of crowding us out of the market, may be gathered from the statement (in the German Catalogue of the Chicago Exhibition) that, whereas Germany as late as '77 produced about 42,000 tons of Soda a year, her annual output is now considerably over 195,000. In the ten years from '85 to '94 her export of Soda-Ash grew from 11,981 to 33,556 tons. In the same period her import diminished in like proportion. Our own export of Alkali to Germany has dropped from 134,300 tons in '93 to 112,198 in '95; our export of bleaching materials from 7,740 tons in '90 to 2,330 in '95. This growing inability of ours to sell in Europe is owing in no small measure to the high Protective Duties in which our Alkalis are mulcted (on Caustic Soda they reach 2*s.* 0½*d.* per cwt.); so that reports from Her Majesty's Consuls in Germany are rich in references to the prosperity of the Heavy Chemicals Trade. From Stettin, for example, you learn[1] that the Union Chemical Manufacturing Company's "production was not equal to the demand"; that "it was necessary to erect two new acid-producing apparatus"; and that the Company has declared a dividend of 10 per cent. There is no question here of an insidious advance. The matter

[1] *Foreign Office*, '95, Annual Series, No. 1652.

is, simply, that our trade has gone to the devil, while the Germans are piling up fortunes.

Manures, etc.

Another big branch of Heavy Chemicals is the manufacture of Manures. Every farmer will testify to the exceeding value of these stuffs. 'Tis a modern means of fertilising the soil, and there can be no doubt that it has a very great future. Obviously, then, it is in the highest degree important that England should keep a firm hold of the trade. What, alas! is equally obvious, is, that England's grip on it is relaxing, but that Germany is tightening hers. It is not easy to gauge the extent of her increased production, because figures are not obtainable save in certain branches of the industry. Such as they are, they are significant. Sulphate of Ammonia shares with Nitrate of Soda the foremost place in the production of chemical manure: it has now become as cheap, and for some purposes it is more useful. It is a by-product, chiefly obtained in gas manufacture; but there are other sources, and of late a new one has been found in the coking-oven. Now, the recovery of Sulphate of Ammonia from coking-ovens has been, and still is, neglected by all save a very few English ironmasters; nor are the Scotch themselves much thriftier than we. But in Germany they are not as we are, and in Germany they are using their coking-ovens to this end for all they are worth. The Combined German Coking-Works, for example, are now making from 1,200 to 1,500 tons a month; and it is estimated that from all sources the annual production in Germany of Sulphate of Ammonia reaches 100,000 tons. This may be rating the production too high—in the absence of statistics it is impossible to check the figure; and of course the major part of the product is from ordinary gas-making sources. But it is this new recovery

from coking-ovens which is the special danger. It is an industry which the Germans are making peculiarly their own, and are exploiting with great gain to themselves: for it is very cheaply worked and very profitable. The English Manure Trade, on the other hand, is not in happy case; and to lump together Holland, Belgium, and Germany—(which, as I have explained, is to get at the extent of the Anglo-German trade)—is to find in '94 a drop of 6,000 tons in her export of Sulphate of Ammonia for '93, and in '95 another drop of 5,000 tons on her export for '94.

Messrs. Thomson Aikman and Company in their Annual Report for '95 say: "The Fertiliser Trade has been more depressed than ever, and prices have touched the lowest recorded points during the last few months owing to overproduction and agricultural depression." The state of the trade may be gauged from the ruling prices of '95 as compared to those of '94. Phosphate has declined in value nearly 25 per cent., and its price is less than half that of a few years since. In the course of '95 the price of Sulphate of Ammonia declined from £11 or £11 5*s.* per ton to £8 10*s.* or £8 15*s.*; '96 sees it at £7 15*s.* Of Germany you learn from the same authority: "The value of Potash Salts continues to be regulated by the combination of German producers." One factor in Germany's success is the working of the Stassfurt Mines near Frankfort, which contain large natural deposits of Salt. The discovery of these mines led to an enormous increase in her output of Saltpetre: with the result (in the words of a Scottish chemical manufacturer) that "the Germans have completely displaced every manufacturer of Saltpetre in the United Kingdom, and have almost monopolised the consumption of the world. Indeed, they have utterly gobbled up the industry." Yet the existence of a good local source of supply of Potash in Germany should scarce have led to the annihilation of an English industry; for Nitrate of Soda is an equal ingredient in gunpowder making, and

that the Germans have to bring from South America, even as ourselves. Moreover, Gunpowder is still an effective argument, and Englishmen cannot—surely !—feel quite comfortable in the thought that Germany may cut off their Saltpetre when she will. This is a matter of importance beyond commercial circles. Is it supineness or sheer ignorance that accounts for the silence of our military authorities?

Salt

Even in the ordinary Salt Trade the Germans have encroached upon us. The story is worth study. The Salt Union was formed in England in '89, and the manufacture of Salt was thereby converted into a big monopoly. As the Salt Union, Limited, is an institution for the paying of dividends, it put up its prices in the cheery fashion of them that feel the market all their own. Its directors reckoned without their Germany. They can make Salt there too. It is not so good as the Cheshire product, but it is Salt, and it is much cheaper than that sold by the Salt Union. When that syndicate's price went up, the German manufacturers pushed into the world-market, and that to a purpose which is strikingly illustrated in the case of our great Dependency. India needs much foreign Salt, and the Indian ryot needs it cheap : for the Salt he uses has to bear the burden of a tax. The natural result followed : German Salt to a large extent ousted English from the Indian market. In '94 it looked as though we were getting back the trade ; but there followed a fall from £226,781 in '94 to £152,152 in '95 (which is nearly £10,000 below '93), and the fall has gone on into the early months of '96. Also, the Union's supply of Salt for chemical purposes has fallen from 600,000 tons in '90 to 275,000 tons in '95.

Fine Chemicals

The grouping under this head is of necessity somewhat arbitrary, and comprises wares of such various use as Quinine and Photographic Materials. These two illustrations come naturally to a pen which writes of German competition; for on no article of commerce—chemical or other—does the hand of the German lie heavier than it lies on these; so that to the student of Anglo-German Trade they are even as the "awful warnings" of inebriety to the teetotal lecturer.

Quinine

Years ago England held a foremost place in the preparation of this invaluable drug, and for quality her name ranks first even now. Yet the fact is all too obvious that she has lost the market, and that Germany has captured it. This is all the more serious in view of the steady increase in consumption. It is estimated that the world uses some ten million ounces of Quinine a year, the value of which is about £500,000. It is likewise estimated that four-fifths of this total is made in Germany, whose chemists are ever devising new preparations: with the most encouraging results in the way of Export Trade.

Photographic Chemicals

Our Board of Trade Returns make no special mention of the chemical accessories of photography. Yet the imports of Photographic Materials from Germany are increasing enormously: not alone absolutely (for with the extension of the Kodak-Amateur that is not remarkable), but relatively, in proportion to the home trade. The most glaring instance is that of Albuminised Paper, the manufacture of which is utterly in German hands In '95 the German

export was worth 3,334,000 marks, the import being a negligible quantity. So, too, Pyrogallic Acid and the other Photographic Chemicals may be described as German monopolies. Yet it is worth noting that the best cameras and plates and the like are made in England, and that the sole reason why the English Photographer does not get his complete outfit at home is that the German is the better chemist. In Germany, workers as well as professors give themselves a scientific training, and this training they apply in their workshops. In England, on the contrary, Technical Education, despite its noisiness, is wretchedly backward. The workers lack knowledge; the professors disdain its practical application; and the Dewsbury and District Technical School is found advertising for an assistant science master, "qualified to teach Chemistry and Physics," at sixty pounds a year.

Analysts' Chemicals

Room may here be made for the bitter cry of them that work in laboratories and places where they analyse. With the exception of one or two specialities, no manufactory of Pure Chemicals of any account exists in this country. The analysts *have* to get them from Germany—to their deep disgust. For (excepting in the case of one or two high-class firms) the only thing pure about these wares is their price, which is up to the very highest level. With the growth of Technical Education in England the use of Pure Chemicals is increasing. Is Technical Education also destined to be an arable field for the German? Again, the Mechanical and Physical Apparatus used in laboratories and schools in England come in vast quantities from Germany. Experts characterise these tools as of "very poor workmanship—liker toys than anything else"; but the prices are exorbitant. They are bought apparently by teachers out of sheer ignorance: for the simple reason that

the German manufacturers get English publishing and school-providing firms to become their agents.

Anilines

In the history of Anilines and their Derivatives you find the clearest record of England's failure to maintain her supremacy in the Chemical Trades. It was the discovery of Anilines that wrought the biggest revolution in modern chemistry. These dyes are extracted from Coal-Tar products, Benzole and Anthracene being raw material. Considering the vast amount of coal which is used in England, the natural conclusion at which an uninformed observer would arrive is, that in England any manufacturing use to which such cheap stuff could be put would flourish to a preponderating degree. Yet the uninformed observer would err. Instead of using it ourselves, we suffer the German Chemist to ship it from our ports, that in mighty German factories he may extract the colours wherein the world and his wife are bedizened, and coin himself such profits as must make some Englishmen sick with envy and some others sick with shame. As years go, it is quite a new manufacture ; yet already it has made such strides in Germany that there are factories at Elberfeld, Mannheim, and Berlin, which find employment for 3,000 to 6,000 hands apiece. Of late, as far as profits are concerned, the Germans have a little overdone the thing: the temptation to embark on so golden a tide was too powerful, and over-production and low prices have been the issue. But this very greed makes English apathy only the more glaring. In the words of the Chemical Manufacturer I have already quoted :—"Here we are lying asleep—indeed, we hardly know where or how to begin, and those who have been in the business are pretty well driven out of it."

The extent of the Aniline Trades in Germany may be gauged from the fact that her export of Aniline Oil and Aniline Salts has grown from 1,713 tons in '85 to 7,135 in '95 (the progress being especially remarkable in the last three years); while in Alizarine her increase has been from 4,284 tons to 8,927. In Aniline and other Coal-Tar Dyestuffs her exports have leaped from 4,646 to 15,789 tons; so that between '94 and '95 the increase was nearly equal to 25 per cent. In '95 we ourselves took 2,634 tons of German Alizarine, with 3,258 tons of Aniline and other Coal-Tar Colours, which is an increase of about 30 per cent. on our purchase in '94. In short, Germany makes nine-tenths of the artificial colouring in use throughout the world (France and Switzerland sharing the remainder with England); and she is extending her trade. Her export of Aniline and other Tar Dyes to China rose from £189,115 in '89 to £296,550 in '94; her export to Japan from £22,850 to £61,071. To multiply a trade by three in five years is no bad record. Also, with regard to both these countries German commercial diplomacy has been exceedingly busy since the War; and it is confidently anticipated that *what has been* is a bagatelle compared to *what will be* in the near future. That Mission to China which the men of Blackburn are promoting is badly wanted. So far as Japan is concerned, it is worth noting that the German trade in Chemicals far exceeds the English, though our General Export to Japan is much larger than Germany's.[1]

Of our Export Trade between '90 and '95 you shall find recorded under the heading "Dyestuffs" a drop from £530,801 to £473,546, and less than half of this latter sum goes to Coal-Tar Products. In some directions our Dyestuffs Trade seems to be silently vanishing away—as

[1] We do not even find a use at home for the immense quantities of pitch produced in gas-making, but send nine-tenths of it to the Continent for the manufacture of briquettes.

if it had met a Boojum! The export from the Bradford District to the United States fell, between '91 and '94, from $2,749 to $446. In '95 there was nothing. Now read this extract from a compilation on the trade of Scotland, &c., for '95, published in *The Glasgow Herald*:—"The present year has been, from a dyer's point of view, not a satisfactory one, as large quantities for few shades have been scarce, and, on the contrary, innumerable shades have been wanted, and very small quantities for each. So much has this been the case that we think it would be for the good of the trade to have a series of standard shades fixed for each season, and not to go beyond these. We dare say, however, that it would be impossible to get the trade and its customers to agree on this." You may "dare say" all that, O sensible Scot, in view of the fact that those customers have under their potential patronage an army of German Chemists and German Manufacturers, ever engaged in producing novel shades, and only too happy to supply them in any quantity, small or large! There will be many more unsatisfactory years if your fond counsel be followed.

Besides the general causes of English depression, in which the Chemical Trades have their part, there is special reason for our failure in Anilines. One knows not whether the label should be "Parsimony" or "Purblindness": it is probably a deadly blend of both. In previous chapters I have hinted that the English manufacturer's lavishness is apt to centre itself in, not his factory but, his personal wants; the rule within that factory being a morbidly jealous eye on expenses. In Germany it is all the other way. There is one factory at Elberfeld, where not less than sixty trained Chemists form a part of the permanent establishment. These gentlemen have well-furnished laboratories at their disposal, and they receive a regular salary for what the English would call "doing nothing" (but the German calls it "Research"). They

have no routine tasks in connexion with the ordinary business of the firm: their work is simply to analyse and experiment day after day, and year after year, until one of them develops a new process, or a great use for something hitherto known as "waste": when the fortune of his employers (in which he shares) is made. The Elberfeld Factory is no solitary instance: in Germany the Elberfeld system is the rule. The Badische Anilin und Sodafabrik at Mannheim, for example, employs an even greater number—(seventy-eight, no less!)—of chemists. "Reckless extravagance" would be the English manufacturer's comment: but the last dividend paid by this Company was 25 per cent. There is an extravagance which pays! That is how the Germans have conquered the world in the application of Chemistry to practical needs: that is how they continue to extend their dominion. To pay comfortable salaries to a big expert staff, in order that every several man on it may simply pursue his scientific bent, would be regarded by the British Manufacturer (who rarely employs more than six chemists; who never employs any chemist at all in Pure Research) as a wanton and stupid waste of money—money which would rent a deer-forest, or keep a country house. But it is in discordance with the fitness of things, when that manufacturer bewails the Badness of Trade, which compels him to sell his country house, and take his family to Brighton or Littlehampton, instead of inviting gunning friends to Sutherland. Yet Anilines are an English discovery. Forty years ago, Mr. Perkin found out how to extract a Mauve Dye from Coal-Tar; and for a time such trade as there was in Anilines was in English hands. Alizarine, too—whence Turkey-red is made—was born in England; but it has become so effectually naturalised in Germany, that England—literally—knows it no more.

Essential Oils

That branch of Practical Chemistry which is concerned with the distillation of Essential Oils is in little better case than the others. Despite England's record as the best Distiller of Oils, the Germans have thrust into the trade, and are taking and keeping a strong grip on it. Leipzig is the centre, and the stills there are constantly increasing their output. Why? The secret lies in the way the thing is done. The methods are based upon the chemical examination of constituents.

Perfumes

A trade in Perfumes is commonly regarded as peculiar to the Politer Nations. It follows that France stands conspicuous in the public regard as a maker of Scents; and more than one English distiller has been unable to resist the temptation to take on a Gallic alias. Yet England is honourably known in the connection, and some Scents are held to have a more delightful fragrance if the label on the bottle be English. It is otherwise with Germany. It is hard for the general mind to imagine the German Courts as homes of politeness and refinement; and—from an association of ideas rather than through a process of reasoning—Scents "made in Germany" do actually (with the exception, of course, of Eau de Cologne) rank low in the regard of the general nostril. They are "made in Germany" notwithstanding; and to an ever-increasing extent. The manufacture is of recent birth; but it is forging—or rather shooting—to the front. There is excellent reason why it should. The distillation of perfumes is a Chemical Process: clearly, therefore, it can best be done by men not strangers to the Science of Chemistry. The Germans have grasped this fact, and in dealing with Essential Oils they proceed on scientific principles. In England—sometimes, at any

rate—it is not so. There is one famous English Scent which may serve for an example. It is manufactured according to tradition—practically, that is, after the fashion of an old wife's recipe: the scientific aspect goes unheeded, and the product is dear. The same perfume is now made in Germany after scientific methods; it is said to be as good as the English brand; it is certainly much cheaper. It is more than probable (I may add) that many purchasers, both here and abroad, ask and pay for the English variety and get the German. For in Drugs and Perfumes the Merchandise Marks Act is treated with an indifference nothing less than sublime.

German success in this field is clearly and entirely an effect of the victory of Science over Rule-of-Thumb. The typical English distiller proves his ingredients and the quality of his mixture merely by his sense of smell. The German applies regular and certain scientific tests, and is therefore the less liable to go astray. Moreover, who says Science says cheapness. Also, the comparative failure of the English scent-maker is all the more inexcusable, by reason of the fact that the Essential Oils from which Perfumes are made are better distilled in England than in Germany.

Soap

In the old days, when Brown Windsor was a luxury, Englishmen washed with soap of English make; and those who could not afford "Scented" cleansed themselves with "Yellow" or "Mottled." Thanks (partly) to Continental Chemistry, we have changed all that, and tablets of "Scented" can now be bought at a price but little in excess of that we used to pay for "Yellow." It is, no doubt, a gratifying circumstance that Board Scholars should take on a "shining morning face" by means of Lily of the Valley, or Balm of Mesopotamia, at twopence halfpenny the cake: though hygienic experts have some-

times that to say respecting the properties of these wares their makers would scarce print as an advertisement. Still, the progress of Practical Chemistry has evidently reached a point at which the manufacture at a profit of agreeable Toilet Soaps at a low figure is possible. But why should this manufacture be so largely in foreign hands? They twit us with our debased fondness for the tub, and they do but add injury to insult when they send us the soap for use therein. The Germans—(a non-tubbing race)—have not yet invaded the English soap market so victoriously as is their wont: though even here the Teuton hand may be discerned by the expert in forged trade-marks. At present their chief success—complete in its way—in the Soap Trade, consists in routing the English export by means of protective duties, and this they have effectually accomplished. One very big English firm has tried to break the barrier down. But that English firm has failed for the German genius loves not Reciprocity.

VI

THE LESSER TRADES

THE description "Lesser Trades" is no disparagement. I seek not to convey the impression that, collectively or singly, the trades in toys, in leather goods, in musical instruments, in paper, in glass and earthenware, are anything like a negligible quantity; my meaning is that in each case the individual trades are on a lower level than the gigantic industries with which I have hitherto dealt. None the less, it is foolish to disregard them, and yet how little heed is given to the fact that, to a large and an ever-increasing extent, our children's playthings, our own gloves and purses, our pianos and violins, our sheet music and photogravures, our glass bottles and "fancy goods," are made in Germany. The German is wiser in his generation. He is devoted to the big matters—the production of iron and steel, machines and engines, woollens and cottons; but he is devoted also to these others. In themselves they may be comparatively—not actually—small. But they fill the chinks in the Industrial State; and their aggregate amount is something very big indeed And we neglect them worse than we neglect the great industries themselves.

Toys

The Scoffer in this Made-in-Germany matter usually makes the other side a present of Toys. "Toys? O yes,"

he says, "the German of course beats us there." And he says it as becomes a man who thinks it rather a fine thing on the whole that the German should beat us there. Now, skill in the construction of toy-engines by no means implies the lack of it in the construction of big machines; and the importance of an industry from the commercial standpoint, lies not in the use to which its products are put, but in the volume of the industry itself. Bulk and steadiness being equal, the consumption of a nursery is as valuable as the consumption of a dining-room or a railway; and the Toy Trade has attained to proportions which are very far indeed from mean. It is a branch of commerce which is well worth looking after, and we have quite failed to look after it. So that in London the manufacture is well-nigh at the point of death. It is a pity; for year by year, more money is being spent on toys, despite their growing cheapness. Indeed, the Toy Trade is no fit subject for neglect, but a big thing, which should profit the manufacturers of the more elaborately constructed mechanisms, and provide, as regards the workers, not only wages for factory-hands, but independent, light, and interesting handiwork for people barred from other employments. In the towns—and in the country, too, for that matter—this home industry might well supplement the allotments from which so much is expected in the direction of securing our working classes a better standard of living, and a greater freedom from anxiety. As it is, its German development is so full of instruction to the student of German innovation in any branch of industry, that I make no apology for treating it at a certain length.

At the present moment there is a toy industry in England (located chiefly in the East End of London). But not only is it powerless for competition, it is also powerless to hold its own at home. In '82 the value of our total import of toys was £525,597. It had grown in '95 to £997,647.

The '95 import was made up as follows :—From Germany £459,944 ; Holland,[1] £336,783 ; Belgium, £20,162 ; France, £165,190 ; United States, £14,159 ; other foreign countries, £882 ; and British Possessions, £767. In '94, the total German Export was valued at £895,000, as against £565,000 in '84. England is thus the chief market for German toys ; but she is not the only one (*e.g.*, California, where, according to the German Consul at San Francisco, the trade is wholly in German hands). You may search the Board of Trade Export Returns in vain for any mention of any export of British Toys to anywhere.

The figures quoted are the sum totals for toys of all sorts ; to the English Customs House official a toy is but a toy. Yet there is as infinite variety in toys as there is in the life outside the nursery, which it is their function to reflect within it ; and the conditions which govern the preparation of Noah's arks are quite another than those which obtain in the manufacture of steam-engines or dolls with vocal stomachs. Yet, as a rule, it is safe to conclude that the Germans beat us. In some instances the greatest success lies with the Austrians or the French, in a very few with ourselves. Those triumphs of modern ingenuity —they deserve the name—which are known in the trade as Mechanical Toys, may be cited as an object-lesson in English lack of enterprise. They are now made mostly in Vienna or Paris, though Germany has a share of the trade. So had England—once. Up to about five years ago an English firm made them, and made them well, always excepting a certain lack of finish, which English manufacturers seem to regard as the hall-mark of excellence. This firm, the sole representative of the English industry, has now abandoned the manufacture, and the most patriotic uncle could not, an he would, find a mechanical toy of English

[1] This may be reckoned with Germany.

make. The same firm has lately devoted its best energies to the manufacture of lead soldiers. I have examined these side by side with those of German make, but, though they mark a big advance on the little tin soldiers (in two dimensions and with no faces to speak of) on which my early military ambition fed itself, and though they are also an English speciality, there is a notable difference between them and their German-made rivals; and the difference (much slighter here than in other kinds of toys) is in favour of the last, whose finish, too, is better. But the deftness and intelligence of the French and German toymen may be best appreciated by contrasting a Kitchen or a Bedroom of theirs with a London-made one. The taste, the realism, and the workmanship of the foreigner give the home-made article the look of a cheap and clumsy copy. Clumsy it certainly is—inexcusably so in places; but cheap it is not, for the price will probably exceed that of the others. A still more flagrant disregard of the proprieties is manifest in the English toyman's trick of signifying an animal's colour and markings by splotches of paint. Now the German covers his animals with real skins, and the Nursery has in consequence pronounced in favour of his Menageries. 'Tis the same with his Railway Apparatus. For about a guinea the playroom can be fitted up as a Line, with Stations and Rolling-stock complete, but it will be an *Eisenbahn*, and not an English Railway, though the Stations may bear English names. Military Toys, too—Helmets and the like—are mostly of French or German make; so that the boy who aspires to an English helmet must go to a real accoutrement maker. It looks nothing near so smart as the Continental article, and costs about double the price.

With Dolls the case is somewhat different. The Continental makers have captured this market also (not by virtue of the more beautiful workmanship, for nothing in the bazaars can exceed the beauty of the best English wax

variety); and that by means of the conservatism of the English makers in the matter of Wax. Wax Dolls are very costly and very fragile; they smash readily, scratch easily, and melt freely. French and German Dolls are made of a *papier-mâché* composition. They are strong, and they neither scratch nor melt, they are better jointed, above all, *they can be washed.* You can buy for 4*s.* 6*d.* a German *papier-mâché* "baby" (as our foremothers said), equal in size, and superior in every respect except appearance (and there not so very greatly inferior) to an English wax, which would cost you half a guinea.

A word as to Toys in Carved Wood. They all come from the Black Forest, where they are made at home by the peasants; only the larger and the more intricate being factory-made. True, the white pine of the district is of special excellence; but, surely, *that* is not enough to prevent the importation of the craft to England? Finally, the cost of carriage to England gives a handsome start to the English toyman, if he would but avail himself of it. The freight varies; but the principal toy-merchant in London tells me that on Imported Toys it averages from 8 to 12½ per cent. of the cost.

Glass

The Chairman of the Birmingham Dispensary had occasion of late, in view of the opening of a new branch, to place a contract for medicine-bottles. His dispensary had got into the habit of sending to Germany for bottles; but he suggested that now it should give England a chance. It did. The quality was to be exactly the same as that of the German make, and the price turned out to be 10 per cent. lower. But the quality was a good deal worse than 10 per cent. The Head Dispenser stated his inability to pass the bottles. They were stained and smeared as though they had been in use for years; they had been

packed off straight from the mould; whereas the German stuff had always been sent in bright and clean. The story is curious and instructive: curious, in that the qualities of cheapness and nastiness have in this case reversed their normal incidence; instructive, in that light is thrown unmistakably on one cause of the English manufacturer's failure to defend his home-market. When I came across this story, I ceased to wonder at the marked success attending the Bottle Import Trade of a certain German house in the City, or at the remark of an English Manufacturing Chemist, who stated (in his wrath, no doubt) that "there is not a single bottle-maker in this country who understands his business, or at any rate attends to it." That chemist gets his bottles made in Germany. This very adverse criticism prompts the enquiry: How has the Bottle-Making Industry fared of late in Germany and England? Need it be said that our Export has declined? In '89 we sent forth Common Bottles to the tune of £464,742; in '95 to the tune of £323,814. As far back as '73 we exported Plate Glass to the value of £328,699; but in '95 the export only amounted to £79,901: about a fourth, that is, of what the industry was worth to us twenty years since. In the same period, the value of our Flint Glass Export has dropped from £359,265 to £214,598. Our Export of Glass manufactures to Holland in '90 was more than twice the value of that of '95. Conversely, our Import has been growing. Our bill for German and Dutch Window-Glass rose from £121,514 in '90 to £202,749 in '95; and for other Glass Manufactures the account has been "swelling wisibly" like the young woman Mr. Weller watched at the Brick Lane Tea Party. As thus:—

GLASS MANUFACTURES (NOT WINDOW GLASS) IMPORTED FROM GERMANY AND HOLLAND.

'90.	'91.	'92.	'93.	'94.	'95.
£	£	£	£	£	£
621,605	736,277	846,248	918,323	1,012,727	892,405

The total German Export of Glass and Glasswares to all countries has shot up from 38,059,000 marks in '83 to one of 46,767,000 marks in '95.

The German Government, it may be noted, looks after the German Manufacture by imposing a duty of 12*s.* 2*d.* a cwt. on Imported Glass; but Broken Glass is free. There's free-trade generosity for you!

The Potter's Thumb

Our Export of Earth and China-wares, including Manufactures of Clay, has dwindled from £2,562,088 in '83 to £2,170,322 in '95; while our Import is nearly half as much again as at the beginning of the Eighties. Of course, Germany is responsible for part of this increase. Her Export of Porcelain Goods, worth £365,000 in '85, was worth £737,500 ten years after. The increase of German Chinaware in this country is a matter of household knowledge. At present the stuff is chiefly inexpensive; so the gross amounts on the books of the Customs House does not look big in proportion to the bulk of the nation's trade. But the makers of *Porzellen* are eager to compete in the costlier wares. A house in the West End, where the very best china is sold, is frequently invaded by representatives of German firms, who wish to purchase samples: which samples, when they get them, are used as models for the German Potter. Yet, in the cheaper wares at any rate, German artistry is often better than English, in finish as in symmetry, and in design. In this trade, indeed, the Germans are rather grateful than not for the Merchandise Marks Act. The "Made in Germany" stamp is more of an advertisement than a brand; though on mugs and ornaments announcing themselves as "Presents from Shrimpton," the legend reads quaintly enough. At times the information is unnecessary, as in the case of certain *souvenirs* sold in the shops of Edinburgh, which were

labelled "A Present from Edingborough." Yet Scotland stands where it did, and *Scots Wha Hae* is but an excuse for the consumption of Scots Whisky. Undoubtedly, if the British Potter is to hold his own, he will have to improve in the matter of design. A timely reference was vouchsafed to this at the last annual meeting of the Exeter and District Chamber of Commerce, in the course of a discussion on the revival of Devonshire Pottery, which is good in colouring, but weak and trivial in design. Is not here opportunity for artists? The breeched and petticoated crowds (with palettes!) who turn the Lynn valley into *succursales* of South Kensington, might profitably—artistically, and not commercially alone—vary their quest of "picturesque bits," by bestowing their talent (such as it is) on the Local Potter.

The Clay Product itself is getting Germanised; so that now the necessary Drain Pipe often bears the German brand. It has appeared (for the rest) on the sanitary supplies of more than one British Corporation; so that individually and collectively the Swine of Gadara are "not in it" with us.

Cement

Read the Export Returns of English cement for the last six years:—

'90.	'91.	'92.	'93.	'94.	'95.
tons.	tons.	tons.	tons.	tons.	tons.
628,441	575,969	492,615	437,565	425,582	395,401

valued at—

'90.	'91.	'92.	'93.	'94.	'95.
£	£	£	£	£	£
1,281,963	1,140,697	902,910	744,424	703,389	641,918

Could anything be more melancholy? And the pitifulness of it is but enhanced when we go farther back, and find that up to '90 English Cement Makers had been steadily

building up their trade. Thirty years ago our total Export was represented by a sum of £280,916; from that time to '90 its record is one of vigour and success; but the steady drain of the last six years tells an unmistakable tale. Do you ask where the trade has gone? "There are upwards of sixty-three cement works in Germany. The year's output is about 10,600,000 barrels, and in the production of this quantity of cement 18,000 workmen were employed."[1] The German Export grew between '85 and '95 from 345,633 to 471,123 tons; so that it is considerably more than the English. It is to the rise of the industry in Germany, and to her improvement of the product (which aforetime was of very inferior quality), that Kent owes the decline in her one important manufacture.

Leather Goods

Here the chief advance of Germany is in the matter of Gloves. The English Glove Trade is not deemed worthy of mention in the Board of Trade Returns, so far as the Export is concerned; but in respect of the Import you may learn therefrom that the value of the German gloves brought in had risen from £4,453 in '90 to £27,934 in '95. Big as the increase is, it makes but a trifling figure in comparison to our yearly payment to France for the same article. We are not buying quite so many French gloves as we were; and, doubtless, the increase in the German Export to England is partly the result of the German sales into France. Still, that increase is twice as great as the French loss; so that the latter is not an adequate explanation of the former. And even if it were, the fact would reflect no credit on the English Glover, who, if the French trade were shown to be not invulnerable, should at least have been able to capture the Home Trade, and should not —assuredly—have let the Germans do the capturing for

[1] *Consul-General's Report on Trade of Hamburg*, for 1893.

him. Glove-making itself, however, is but a part of the industry. There is also the preparation of the Leather. Now, English leather ranks high; yet our principal Glovers get their material from the Continent, and many (one might say most) of the makes sold as theirs are English in little more than name. We imported from Germany in '95 *Handschuhleder* to the value of 14,133,000 marks (from 11,732,000 in '94): our Export thither of the same material figuring at 1,389,000 marks. This reads odd for a nation celebrated (as England is) for the best tanneries in the world. German Glove Leathers are advancing, and by big strides too. In '85 the Export was worth 24,800,000 marks; in '95, 47,599,000. Small wonder that you have to search London as though for a rare bird, if you want to get a real English pair of gloves!

Even more remarkable is the German advance in matter of Waxed Cloth. In '85 the Export was worth no more than 600,000 marks; in '95 it had risen to 1,114,000.

Paper and Pasteboard

In the matter of Paper, the old Statistical Abstracts of the United Kingdom denote the import of none save Printing or Writing Paper. It is startling, therefore, to fall, in later Abstracts, on the notes of such gigantic amounts as are credited to our Import of other sorts under the head of "Other Paper Except Hangings." The last issue sets forth for 1880 a sum of £709,294. Ten years later that amount was more than doubled, and it has been mounting steadily ever since: as thus:—

'90.	'91.	'92.	'93.	'94.
£	£	£	£	£
1,528,932	1,725,885	1,946,630	1,878,151	2,122,041

Of late, indeed, our import of foreign Paper and Pasteboard has waxed so formidable that the compilers of the

Board of Trade Returns have had to change their *formulæ* and make room for explanations. In '95 an amended classification was adopted: it shows that in that year England bought Foreign Unprinted paper to the value of £2,046,106; Foreign Printed to the value of £254,042; and Foreign Straw-Board, Mill-Board, and Wood-Pulp Board to the value of 545,254. In the aggregate for '93, '94, '95, these three items ran up from £2,347,204 to £2,845,402. Seeing that, despite Board Schools and halfpenny newspapers, the consumption of paper cannot have increased in recent years in the ratio indicated by these figures, it is evident that the British Paper-Mill is not having a rosy time. As a fact, English journals and other consumers of paper buy largely abroad, and many a patriotic Englishman would feel a shock were he to be told that the favourite newspaper from which he draws his daily or weekly supply of anti-German politics was printed on paper made in Germany. Prince Bismarck, it may be mentioned, is himself a big paper-maker, and trades with England like the others.

So much for German Export and English Import! A reference to the English Export will complete the effect. It represents the total value of English-made Paper, other than Hangings, sent out of the country:—

'88.	'91.	'92.	'93.	'94.	'95.
£	£	£	£	£	£
1,674,908	1,554,733	1,431,204	1,333,375	1,274,741	1,288,763

A paltry £14,000 was the best that the '95 Revival could do for a Vanishing Industry; and if we may judge from the normal course of the trade, it is as likely to mean Over Production as Improvement.

Other countries than Germany have largely increased their make in recent years; but we need not just now concern ourselves with them. Germany alone will serve our turn. In '94 there were 860 Paper and Card Factories

in Germany, with 1,020 machines, whose Total Output was estimated at 810,000,000 kilogrammes. Little wonder, then, that Germany can do without English paper, and apply herself to the work of supplying the world at large. Here are some statistics. The Import is decreasing: that of Packing and Unglazed Straw paper has been lowered from 878 tons in '85 to 209 in '95. The total Export of Gold, Silver, and Coloured paper was valued at 13,700,000 marks in '85, and 25,402,000, last year. Under the heading of Parchment, Cigarette paper, &c., her Export leapt from 3,000,000 to 6,135,000 marks in the same ten years. Her Packing and Straw paper, her Paper and Paste Goods are also on the upward grade. Her Writing and Blotting paper teach a lesson of their own. In the eleven years since '85 the Export has risen from 23,609 to 42,794 tons; yet in '85 it is worth 20,100,000 marks, and only 14,122,000 in '95. This is significant of the general havoc wrought by German Industrialism. Not only is English trade being ruined, and the English worker being turned out into the street to look for work which has gone to Germany; but also the German workers and capitalists, under the stress of that competition they have themselves created, must put up with an ever-diminishing revenue from their product. At present, thanks to the increased productiveness of their factories (a matter of new machinery and better organisation), to Protective freights and other industrial aids, they are not feeling the full effect of the new conditions as they will do later. Beset by dwindling profits, and falling wages, and a deepening labour-strain, they will have time and occasion to reflect that the counsels of the Agrarian party were after all worth listening to; at the same time that we, on our side of the water, shall be puzzling miserably at accentuated Unemployed and Low Wages problems. Meanwhile, they have begun to feel the pinch, as have those other nations which have brought up their home manufactures on a diet of Protection, and Export

Bounties. By '94, indeed, the Foreign Paper-Maker of Europe had landed himself in such a plight by over-production, that an International Congress of Paper and Card Makers was summoned to Antwerp in the October of that year. They had a mournful tale to tell; and the sole remedy proposed was that there should be no more working Sundays. The English Paper-Makers were invited to the Congress, but the Paper-Makers' Association pointed out that already English mills all closed on Sundays, and the most of them did half Saturdays as well. One English maker did attend, and showed the Continental men that, bad as they held their state to be, the English makers' was worse: for *they* must stagger under a burden of Factory Acts and penal legislation in respect to the Pollution of Rivers, from which the others were free. As an instance of the working of the Rivers' Pollution Acts I may cite the recent case of an Englishman, who started a paper-mill on the lower reaches of the Thames. His process necessitated the discharge of a brown effluent. It was quite harmless, and the thin brown stream from his mill could do little towards disfiguring the stretch of water. But the law was against him, and the law was put in force. The work was impossible without the effluent, so the work was stopped and the business has been destroyed. This is very far from being an isolated case.

Again, protection counts for much in the Paper Trade. Germany penalises Imported Paper in sums ranging from 6*d.* per cwt. on Grey Blotting Paper, to 12*s.* 2*d.* per cwt. on the more elaborate Hangings, and £1 10*s.* 6*d.* (in addition to the Excise Duty) on Playing cards. As the English representative at the Antwerp Congress remarked:—Not only do Foreign Governments shut out English paper by the imposition of hostile tariffs, while English ports are wide open to Foreign Papers; but also Foreign Governments give their makers bounties on exportation; many lines being favoured with State aid in

proportion to the amount of their freight of home-made goods; while in some countries raw materials are kept below market value by the imposition of export duties.[1] If the Congress wanted to get at the root of over-production (he added), his hearers had but to put their fingers on this Protective System. No doubt he was right; but this, after all, was not the last word. Of late, the Germans have advanced in quality as well as quantity, and the prejudice we used to entertain against their paper "is a thing of the past," as *The Paper Exchange News* admits. Are English makers striving in like manner to improve their product? Adversity has doubtless taken the heart out of them; but without a determined effort to keep ahead of their rivals, their state must worsen steadily. Again, it is the Germans—not we—who are finding new uses for paper. The latest comes from Berlin: it is an invention for the manufacture of Paper Horse Shoes. It sounds grotesque, but it seems like to be extremely serviceable, as not only is it cheap, but also it prevents the wearer from slipping on a wet or frozen road.

For the quality of English paper, it is a curious fact that proposals to stamp English paper "Made in England," have been met with disfavour by the Trade. Does this mean that the stamp would carry no recommendation? If it do, then Ichabod indeed!

Musical Instruments

The piano is everywhere. The cheapest middle-class home lacks a chief household god till the "upright" is installed. It is a questionable aid to the national artistic life; but—think of the pianoforte manufacturer! Think of him, by all means, dear reader, but think his case out as it really is. It may help you to a right appreciation of the

[1] *See* letter of Mr. G. Humphreys-Davies, Secretary to the Paper-Makers' Association, in *The Times*, 24th October, '95.

English maker's happy state to learn that last year England imported musical instruments to the value of £996,193; of which sum £563,018 went to the credit of Germany, and £146,913 to that of Holland and Belgium. This puts a different complexion on the case. Messrs Broadwood and the rest contribute to the supply of their countrymen's pianos; but German pianos are cheap, and German agents are many and energetic,[1] and German pianos are landed in England duty free. But the extent of German depredation on our national music-trade cannot be measured by the German names which decorate many of the pianos in English drawing-rooms and places where they sing. Your piano may bear an English name and address, and, the Merchandise Marks Act notwithstanding, be English in little besides. It happens that Messrs. Smith and Jones, of the Old Kent Road, London, sell pianos, inside whose covers their name (as makers) appears in a glory of gilt and flourishing capitals. But the pianos thus described are not made by Messrs. Smith and Jones at all; they are the product of—not the Old Kent Road but—the Saxon Vogtland; and almost the sole difference between them and genuine Germans is that they come over in bits, and Germans do not. Messrs. Smith and Jones put those bits together, and to that extent are makers; so that, in effect, Messrs. Smith and Jones are German agents in disguise.[2]

So much for the nationality of English musical instruments. As for the English Export in '84 it was worth but £265,414, and by '95 it had got down to £159,293, of which latter sum the German proportion amounted to £9,813. Contrast with these the figures (given above) of the English Import! To amplify my statistics: In '86

[1] In India the presence has been remarked of great numbers of German fitters and tuners, who all push the German article with vigour and success.

[2] The reader need not look for Messrs. Smith and Jones in the London Directory. They have many aliases.

the German Export of pianos alone had a value of £740,000; ten years later the figures stood at £1,054,000; and for last year you must add £733,000 for musical toys, and £980,050 for divers kinds of musical instruments.[1] The German Trade is afflicted with a chronic tendency to grumbling; yet the figures for '95 are big increases on those for '94. It matters not what country we take as test: the result is always the same. Germany commands the market, and extends her dominion with each year. In Chili, for example, twenty years ago her part was merely insignificant; now the market is in her hands. Her export of musical instruments into Finland more than doubled in four years, and as far back as '88 she supplied six-sevenths of the musical instruments used in that country. Yet more pitiable from an English standpoint is the manner in which she "scoops" the Australasian trade. New Zealand imported 534 pianos in '92: 446 of them came from Germany; Great Britain shared the remaining 88 with other countries. The British manufacturers labour under the not unnatural delusion that new and sparsely populated agricultural colonies are not customers worth cultivating. It is a delusion, nevertheless. In '91, when the whole population of West Australia numbered only 55,000, the colony imported musical instruments to the value of £6,639. These were mostly German: the British contribution being so small that it is ignored by the Board of Trade Returns. The rest of Australia is in the same way. A German Consular Report states that several of the Melbourne musical instrument houses deal exclusively in German goods, two reasons being given: (1) moderate price; (2) *sedulous regard for the wishes of buyers* in the matter of construction and ornamentation. This regard for the buyer is not always admirable in kind. The buyer's

[1] This class is very heterogeneous. Stringed instruments form a big proportion; but musical chairs, musical tables, and even musical bedsteads and the like weird devices, are items in the list.

wish is often concentrated on low prices, and the German maker is complacent in this respect also. He is quite willing to supply at a lower figure than a decent instrument can be sold at—and the instrument he supplies is in no sense a decent one.

Europe tells the same tale. Nearly all the musical instruments bought in Roumania come from Germany; England hasn't a look in. Austria and France once held the market there, but even they have given way before the invincible German. France, indeed, seems as little able to resist him as ourselves; and the Swiss trade, once her monopoly, has passed into his hands. Investigating this phenomenon the Swiss Chamber of Commerce ascribed it to the adaptability of the German maker, who does his best to meet such requirements in taste as his customers may state. Another of its reports asserts that "no dealer can now do without the German article, which was formerly quite different." Notwithstanding severe native competition and heavy Protective Duties, the United States, too, is all a-tinkle with German pianos; and it is worth noting that the German Government allowed all exhibits intended for the Chicago Exposition to travel on the State Lines free of cost, while the German Shipping Companies followed suit by materially reducing their ocean-freights. Similar in kind is the annual subvention (1,000 marks) which is paid by the Saxon Government for the purchase of models, &c., to the Trade Museum of Markneukirchen, an institution established for the express purpose of furthering the Musical Instrument Trade there. They don't do these things in England.

It will be unpleasant news to Englishmen that German factories are largely run with English money; but we have it on the authority of a trade journal,[1] that English capitalists are not backward in making such investments

[1] *Musical Opinion and Music Trade Review* 1st August, '90.

whenever required for the establishment of new firms and factories."

To sum up: it was estimated in '90 (I do not vouch for the figures), that the world's consumption of pianos reached 200,000 a year, and that 72,000 of them were made in Germany. It is an enormous figure when you consider the length of service which most pianos perform; but if it were accurate for '90, the returns required for '95 and for the current year would be more disgusting still.

Printing

For a final instance I would refer you to the Printing and Allied Trades. These also are under the blight. The Export of Printed Books is a very modern trade; yet our part in it is shrinking. In '91, the value of our Export of Printed Books was £1,388,669; in '95 it was £1,232,946. In the former year, £52,208 worth went to Germany, and three years later only £42,451 worth. Need I add that the position is reversed in the case of the German Export? Under the head of "Bücher, Karten, Musikalien," you find recorded an Export Value of 30,100,000 marks in '85, and an Export Value of 52,478,000 marks in '95. Again, of "Farbendruckbilder, Kupferstiche, &c.," the Export was worth 21,800,000 marks in '85, and 46,143,000 marks in '95. Here is another comparative instance: the German Export to England of "Literarische und Kunstgegenstände," was in '94 worth 21,571,000 marks; the German Import from England under the same heading in the same year was worth only 2,496,000 marks. Proceeding on the English computation, we find that the German import from England of Stationery other than paper was worth £82,990 in '91, and £76,408 in '95.

What is the moral of these figures? The facts they

disclose are, that our own Export is gradually dwindling, while German Export is going up by leaps and bounds. There is but too much reason; and it may be stated in the two words—"inferior workmanship"; for this, so far as I have been able to gather, is the chief cause of England's inability to hold her own. So far as printing in general is concerned, a Member of Parliament, who is largely interested in the trade, gave me four reasons more: (1) superior education; (2) the stupid conservatism of the English Trade Unionist; (3) the ditto ditto of the English Master-Printer; and (4) the suicidal jealousy of the English Typefounder. 'Tis a fairly formidable list of sins, and will account for much. With respect to the fourth, the same gentleman informed me that our typefounders deliberately make their types in such a way that one firm's will not fit into another's; the idea being that a printer, once he begins to deal with them, will have to do so ever after. But the Foreign Typefounder is vastly less cunning; so to him the English Printer goes. A gentleman connected with the London Trade assures me that good work (he was alluding in particular to bookbinding and lithography) *cannot be got outside the Continent.* Tired of paying bills to Foreign Houses, he has placed orders at home; but ever with disastrous results. The English work is scamped, clumsily finished, late in delivery, and expensive. The Dutch and German work is none of these things. "Look," my informant said, "at the factory girls coming out of a printing works on the Continent—tidy, clean, smart, and neatly dressed; and compare them with the horde of girls trooping from an English printer's—frowsy, tousled, and untidy! There you have the explanation. The appearance of the girls in the streets shows clearly their fashion of work inside the factory."

The German, Dutch, and Flemish workers take pride in their work, and bestow great pains upon its details; and

obviously, in such industries as these, attention to detail is of the very essence of good work. It follows that, so long as national characteristics exist as they are, England must remain in the background. The best she can hope for is the spread of good schooling in industrial art. Then, when her workers are more or less adequately trained, and have come to take a pride in seemly results, more prosperous times may ensue, and Christmas cards designed in England—the English designs are the best—will not need to be sent to Germany to get decently printed. Already, indeed, there are signs of improvement. Last Christmas, several among the "presentation plates" were printed in England, instead of, as hitherto, in Germany. So there is hope. But that hope will not be largely realised until the damnable phrase, "It's good enough," ceases to be the British Workman's shibboleth.

. . . . . .

Here ends the tale of England's industrial shame.

VII

Why Germany beats us

At the risk of a charge of "damnable iteration," it will be well to set out the causes of German success in a separate section. I shall endeavour to make it as exhaustive as my limits will allow.

Wages and Hours of Labour

I put this cause first, not because I believe it to be the principal explanation of German success, but because in the minds of most Englishmen Cheap German Labour adequately explains their country's failure to withstand the encroachments of German Industrialism. In spite of statistics, it is no easy matter to make accurate comparisons between the rates of wages paid in Germany and in England. In both countries substantial variations exist in the wages paid for similar work in different districts. The London shipwright, for example, demands a higher rate than his mate in Glasgow. The Westphalian iron-worker is remunerated on a more generous scale than the Silesian. Local variation has much to do with the conflicting statements on the Wages Question which have become frequent since the recent awakening of some of our countrymen to the fact that even the Cheap German Labour argument must have its foundation tested. A con-

spicuous instance of this disagreement among doctors is the opposite character of the conclusions come to by the delegation of the British Iron Trade Association and the Foreign Competition Committee of the Wolverhampton Chamber of Commerce. The official report of the Iron Trade Association, recognising the difficulty, declined to pronounce an opinion; but the unofficial utterances of some of the delegates indicated the superiority, rather than the inferiority, of German wages over English in many departments of the Iron and Steel Trades. The Wolverhampton Committee, on the other hand, roundly asserted that English workers were much better paid than German, and compiled comparative tables in support of the assertion. In regard however to this report it is well to remember that it was to the interest of the Committee, which represented the masters only, to prove the relative highness of English Wages. I do not mean to say that it deliberately took the highest German and the lowest English rates for comparison, but 'tis exceedingly unlikely that it achieved the herculean task of arriving at an exact average of the rates in force in every part of each country. What we do know, so far as the Iron and Steel Trades are concerned, is that the difference between English and German wages is very much less than was at one time taken for granted, and that, comparing the rate of pay in some important German works with those obtaining in equally important English works, the difference practically disappears. But I have already dealt with the subject of wages in this industry in my Second Chapter,[1] and I will burden my readers with no further remarks.

But suppose we allow that, viewed generally, German wages are lower and German hours of labour are longer than English: does it follow that these things are an

[1] See page 41.

effective cause of German success? They are a very obviously effective cause, and for that reason we are prone to accept them as the origin of our defeat. Reflection will show that they are not necessarily an effective cause. Belgian wages in the Mining and Iron Trades rule lower than German. Yet Belgium complains more of German competition than does Germany of Belgian. The wages of New York printers are higher than those of London printers, yet they turn out cheaper work. The shortening of the hours of labour not infrequently results in increased productivity: there is more energy in the worker, and his labour is more intense when the period of it is shorter. German wages, too, are rising, and German hours are lessening. Yet Germany is still accelerating her march. While, therefore, I do not commit myself to the assertion that low wages and long hours do not at times play a part in the cheaper cost of foreign production, I do feel it important to beg my readers not to lay too great a stress on the point. No one is likely to minimise its effects; but there is great danger of making too much of it, and neglecting other causes, the wholesome contemplation of which is likely to have more fruitful results than can accrue from a continued appeal to English workers to work longer and ask less wages.

Strikes

Here you have another alleged cause of German success, and I place this also early in my list, not because of its intrinsic importance, but because it *is* an alleged cause. Many people assert that the prevalence of strikes in England is one of the main, if not *the* main, reason why England's industrial supremacy is waning. To make such an assertion is to weaken a good cause by violence of statement. It is obvious to the most superficial observer that strikes and lock-outs are in their nature harmful to the trade in which they occur, and it is in this very obvious-

ness that the danger lies : the temptation to rate it too high is great. We were told when the big coal-strike (or, more properly, lock-out) was in progress, that the foreign trade, suspended temporarily, would be lost for ever. But English coal was pouring into foreign ports as soon as work was resumed in the pits. Nor did the big mining strike in Westphalia put any permanent check on the industrial advance of that district.

Having said so much in the interests of moderate statement, let me join the chorus of those who deplore the frequency of strikes and lock-outs in this country. They are not unknown, be it remembered, in Germany; but England's acquaintance with them is more intimate. As a check to over-production these labour struggles sometimes serve a certain good purpose : the mischief is that the check is only local, now that rival industrial communities have started up all over the globe. While stocks in England are being reduced, the output is being maintained (often accelerated) abroad ; so that there is a dead loss to English capitalists and workers, without any compensating rise in price or steadying in production. And, so far as Germany is concerned, we have to contend with an extremely vigilant and zealous rival. As soon as the gates of our English works are locked, the German rushes into the suspended market, to fill up the vacancy. It is perhaps the chance which he has been awaiting for years; the necessary introduction is obtained, and he gives proof that he has come to stay. Mr. William Jacks, in a Presidential Address to the British Iron Trade Association, said :—"I do not remember a strike since I was engaged in business that has not resulted in the loss to our industries of some market, and that market it has always been difficult and often impossible to regain." There is probably an exaggerated pessimism in this statement. Nevertheless, it is well to be roundly told sometimes of

the ever-present danger of the German stealing into the market, and getting a custom for his wares in the corner temporarily vacated by the English attendants, who have gone outside to fight.

Cheap and Nasty Goods

Now I come to the third popular explanation of German success. There is a fine insular contempt about the phrase endearing it to the Briton, who, in enforced idleness, plunges his hands into his depleted pockets, and gazes wrathfully at the extension of his rival's premises. Yet it is not an insular product: it also was made in Germany. "Blessig und Schnell" was the verdict bestowed by a candid German on some of his country's products which he had seen abroad, and one is disposed to wonder that with such an ugly and a widely circulated advertisement German merchandise makes any progress whatever in the markets of the world. Englishmen should be thankful for the unenviable name which their rival's goods have obtained. Apart however from its fitness or unfitness as a designation of German manufactures, it is scarce an expression to cherish. It has a flavour of the enraged gutter-child, which does not recommend it for use in serious investigation. Yet it is as common as that other phrase—"Made in Germany"—to which it serves as universal pendant. In view of the obvious fact that German goods are bought, not because they are nasty, but because they are cheap, the phrase, as an explanation of German success, will run better as "Cheap, but Nasty."

A word as to the depreciatory adjective. I have in earlier chapters discussed the respective merits of typical English and German wares, and my readers will by this time be aware that while "Cheap and Nasty German Stuff" is not an altogether unjustifiable insult, yet the justifiable

application of the term is very partial, and must be used with a sparing and a discerning tongue. That German goods are cheaper than English is practically true all round, though diligent students may dig up a few exceptions: that they are nasty is true of a portion only, and a dwindling portion. In the minds of many there is an unthinking inference that, because German goods are sometimes fifty per cent. less in price than English, *therefore* they are fifty per cent. less in value. This may or may not be true in particular instances; but there is no inevitable sequence between Nasty and Cheap. Some German manufactures remain inferior because of climatic conditions—as Linen Yarns; but this disadvantage, which is only of importance in Fine Yarns, may at any time be rectified by the introduction of humidified air into the rooms where the yarns are spun. Other German wares have been less valuable than English, owing to the use of inferior machinery, but that drawback may now be regarded as ancient history. It is safe, at any rate, to assert that the last remnants of it are disappearing. Here, again, the Linen Trade may be cited as an example. So desirous are the Continental spinners of contending on equal terms with their Belfast rivals, that they eagerly import the latest improvements in machinery, and thereby often get ahead of the Irishmen. Similarly, as I have already pointed out, in the Iron and Steel Trades the Germans can now beat us in the matter of machinery. Another cause of German inferiority was lack of knowledge; and this drawback also the Germans have diligently repaired. They have imported Englishmen into their works to teach them how to manufacture in the best English style; they have come to England to learn our methods on the spot; they have educated themselves with such matchless industry that the technical knowledge of a German worker is far and away better than that of an Englishman in a similar position. In respect of the counter

proposition : that German goods have often excellences which similar English manufactures lack : I have had somewhat to say in previous chapters. That people buy German goods because of their cheapness is sufficiently palpable ; and the mass of the people *must* buy in a cheap market. The purchasing power is hard to obtain, and by the vast majority is only obtained in niggardly quantities : and is dissipated over the satisfaction of multifarious needs. A more pertinent enquiry is :—Why are German goods so cheap? The answer will, I hope, become plain in the course of this section. For the moment I would impress on the reader the importance of getting well home in his mind the fact that there are reasons for German cheapness apart from low wages and scamped workmanship. Also, that cheapness is not the sole element in German success.

The Merchandise Marks Act

The Merchandise Marks Act of 1887, which introduced the familiar stamp, is another alleged cause of successful German competition. The people to declaim loudest against it are those connected with Shipping and Trading (as distinguished from Manufacturing) interests. Manufacturers also may be found to join in the outcry, but to a less extent ; and hostility from that quarter is provocative of suspicion. Other Manufacturers, especially those whose headquarters are in Hallamshire, are loud in praise of the Act, and the complaint of many producers is that the Act does not go far enough. Many persons, too, criticise the method in which the Act is worked ; and many others —a legion these—simply don't understand the Act at all. Let us glance therefore at such provisions of a much-praised and much-abused measure as affect the present subject.

The Merchandise Marks Act of '87 was passed to super-

sede the Act of '62, a measure much more limited in scope, designed to check the forging of trade-marks, the labelling of false quantities, and similar methods of commercial thievery, but having no special reference to the depredations of German manufacturers. The Act of '87 deliberately attacked these last, and their aiders and abettors in England. It enacted, among other things, that every person who applied any false trade description to goods, or sold goods so described, should be held guilty of an offence under the Act punishable by fine or imprisonment, with or without hard labour, for a period not exceeding two years, besides forfeiting the offending merchandise to Her Majesty. "Trade description," was declared to mean an indication (*inter alia*) of the place or country in which the goods were made; "false trade description" to include every such alteration of a description, whether by addition, effacement, or otherwise, as should render the description false in a material respect. That is to say, it is a penal offence to sell an article made abroad which has upon it any word or mark leading the purchaser to believe that it is made in England, in the absence of other words denoting the real place of origin. The mug which is A Present from Margate, is a familiar illustration. When it is made in Germany, the mug must state so much, lest the unwary excursionist should bear his gift home in triumph over the discovery of a native school of pottery adjoining the Hall by the Sea. The Act also entertains a prejudice against the stamping of a Sheffield name and address on a knife made in Saxony. But it does not ordain that every article made abroad shall bear a legend to that effect, and many wares—matches, for example—are stamped quite unnecessarily. There is an exception in the case of watches. The person bringing a watch-case to an English Assay Office, must declare the place of manufacture; and if it be a foreign product the Assay Office puts a

distinctive mark on the case. On the other hand, the Act is persistently and largely evaded. There are two principal methods of doing this. One is to stamp the package instead of the article (foreign-made files, for example, have come to England in boxes which were marked fully enough, but the files themselves were not stamped, and were sold as English); the other, to send the article over in pieces, and have it made up in England. This is done with pianos and cycles to a large extent—with cycles to a growing extent. Another trick is to place the stamp where it is practically invisible. One German firm, which exports to England large numbers of sewing-machines, conspicuously labelled "Singers," and "North-British Sewing Machines," places the Made in Germany stamp in small letters underneath the treadle. Half a dozen seamstresses might combine their strength to turn the machine bottom-upwards, and read the legend: otherwise it would go unread.

This is, shortly, the Act which vexes the souls of Chambers of Commerce, and makes food for denunciatory paragraphs in trade-journals. The best argument against it is that it operates as a free advertisement of German manufactures. The colonial buyer (to take an instance) sends orders to England for goods. He receives these orders stamped "Made in Germany." Obviously, he says, the English middleman has made a profit; and he may add, "I will purchase direct from the German houses, and save the commission." On his next journey to Europe, he divides his stay between England and Germany. Having gone to Germany for one class of goods, he is made acquainted with the virtues and prices of others, and being on the spot, he purchases things he would otherwise have bought in England. So the English loss is extended beyond the particular German-made article which the Merchandise Marks Act pointed

out, and our Colonial purchases wares in Germany which, had he bought in England, would have been genuine English manufactures. In like manner, as the Act has fostered direct trade between English retail sellers and German manufacturers, England is being flooded with German agents for the sale of these manufactures, who, being on the spot, improve the occasion to offer other German-made wares. This is the strongest card the detractors of the Act have to play. The conflicting opinions raging around its merits will be found to resolve themselves finally into a case of Manufacturer *v.* Trader. Sheffield sees in the Act a protection against German cutlers: London, a blow at her trading interests. London gets rich in sale commissions on German manufactures, and she likes not the introduction of direct trading, which—as she claims—is fostered by the Act. So long as she has only this point of view to urge, her appeal to English patriotism is hampered by its limitations; for if the manufacturing interests of the Midlands and the North and of Ulster and Scotland are greater than the trading interests of mercantile London and the shipping companies, sympathy with London and the shipping companies must perforce be tepid by comparison. But when London urges that, indirectly, English manufacture as well as English trade is hit by the Act, she essays a more formidable argument. But London has no data wherewith to support her contention. The London Chamber of Commerce has tried to collect them, but the attempt has failed. I cannot see how the Chamber could have hoped for success, even were its contention fully right. Such a cause of commercial decline must remain a matter of surmise, and I think that the argument of damage to English manufactures cannot, having regard to the probabilities of the case, be received with much concern. The English mercantile interest undoubtedly suffers under the Act; but, so far as the Act goes—which after all

is not far—it would seem that it cannot be other than a distinct advantage to English manufacturers, whose wares have hitherto enjoyed a world-wide reputation for superiority over those of other nations. Yet, considering how limited the Act is in its operation, it cannot be regarded as a matter of very great importance either way in a discussion on the growth of German at the expense of English manufacture. The most telling practical criticism seems to be that either the Act is not wanted at all, or it does not go far enough, as it provides for the marking of a portion only of the foreign manufactures imported into this country.[1] Whatever its merits or demerits, it has had one good effect: it has called public attention to the evil which Germans are working upon English manufacturers. And anyway it makes for honesty: there is no reason why even a nation of shop-keepers should be also a nation of liars.

State Help

Protection

Here, at last, we are upon firm ground: whatever the other causes of Germany's success, it cannot be doubted that this is one of them, and a potent one. In the preceding chapters I have made incidental reference to the matter, and it may be said that no more words are necessary to show the obvious evils wrought upon our commerce by the fiscal policy of our rivals. To some readers the mere mention of Protection in this chapter will be sufficient: it is so self-evident a cause. But the blind

[1] At the time of going to press there is a bill before the House of Commons to amend the Merchandise Marks Act. It provides for the marking of *all* imported goods, except such as may be specially exempted by the Commissioners of Customs, on the ground that they are incapable of being marked. But this is only a private Member's bill, and shows no signs of escaping the normal fate of measures of that class.

devotion of numbers of well-informed and intelligent men to the Free Trade fetish—(I do not wish to be cheaply contemptuous, but the thing has become a fetish)—prompts me to summarise the reasons why Protective Tariffs in Germany have injured English Industry. Put shortly, the position is this :—The fact that English goods entering Germany—(the same is, of course, true of other foreign countries, and also, alas ! of British Possessions)—have to pay a toll at the port of debarcation, adds to the cost of production of those goods when they are offered for sale to the German consumer. His desire is to buy in the cheapest market. If a German enters into competition with the English manufacturer to supply the German consumer's demand, he is freed from this item in the cost of production, and is advantaged thereby. Thus, there is offered to the Germans a strong inducement to enter into competition in industries insignificant or unborn. England may be in a more favourable position in some respects ; so that without this artificial aid the German might not have thought it worth while to compete. But the aid acts as stimulus—in the case of modern Germany, madly in love with Industrialism, and vigorous to pursue her love, with sufficient stimulus—to the founding and progress of manufactures which might otherwise have been non-existent or of no account. And of course the aid acts with equal benefit on industries already flourishing. The German manufacturer makes whatever reduction in price may be necessary to oust his English rival ; and the English rival is soon by way of being ousted. That is one way in which Protection against English goods harms English trade.

There are others. The German Tariff System enables German manufacturers to flood England with German goods. In this way, German manufacturers, with a Protected home-market, can charge their home-customers such prices as will

make them a profit; the overplus can then conveniently be sent abroad, and sold at a lower rate—at the cost of production, if necessary. Indeed, German goods are often sold outside Germany at a price which is beneath the cost of production, for the purpose of forcing a way into the market. This puts the English manufacturer at a disadvantage in his own home-market; for in most classes of goods the freight from Germany is too low to redress the balance. In like manner, Germany injures England in the neutral markets of the world. Lacking a protected home-market and having to meet a cut-throat competition from Germany, the English manufacturer has no chance of making his profit on high-priced goods for home-consumption, nor that correlative ability to sell cheap in the export trade which the German has; and he thus meets his rival in neutral markets heavily handicapped. So England suffers a double loss from Germany's Protective System: the Germans shut her out of Germany by hostile tariffs; and by the advantages accruing therefrom to German manufacturers she is badly disadvantaged in other markets, including her own home-market. This is not controversy, but a statement of simple fact; and surely the most enthusiastic free-trader cannot take exception to it.

A clashing of German Protection and English Free-Trade, with the disadvantageous position imposed thereby on the Englishman, crops up in a number of directions. Here is an instance which was brought before the notice of the Bradford Chamber of Commerce. When the Zanzibar Protectorate declared Zanzibar a free port, in order to preserve from the imposition of double duties the trade passing thence into Germany, the German Government put a 10 per cent. duty on goods imported through Zanzibar, whereas on goods imported direct the duty was only $6\frac{1}{2}$ per cent. As a consequence, orders for goods which would otherwise be placed in England go to Germany;

thus defeating the hope inspired by the acquisition of our East African territories, that new markets would be opened where our trade would be unhampered by the hostile tariffs confronting it everywhere else. But Protection in Germany is no longer of the rigid autonomous type which prevailed under Bismarck. A more elastic policy has been adopted. Germany finds out the particular markets she wishes to secure in a foreign country, and says to that country :—"Give us reductions on the Tariff you are imposing on these goods, and in return we will make concessions with respect to the merchandise you send to us." With most nations she has now contracted these treaties, and the results have been more than satisfactory to her Export Trade. For further illustration, I shall refer my reader to what I have written respecting the Russo-German Tariff Treaty.[1] Of course, Germany pays for the advantages of this system by a loss of revenue, estimated by Sir Charles Oppenheimer at 40,000,000 marks a year. But, from the point of view of her Export Trade, the sacrifice does not appear to be too great.

Under the Most-Favoured-Nation Clause England gets the same tariff reductions as Germany in any treaty which the latter country may make ; but this does not imply such entire commercial equality as would appear. When Germany is negotiating a treaty, she arranges for such reductions as will be specially beneficial to her own trade ; and it by no means follows, as our Consuls are too apt to hold, that the articles on which the most useful reductions are made are those in which England has an equal interest. Germany, indeed, has shown herself anxious to avoid reductions to herself when England would receive a greater benefit thereby. I gave an instance of this policy when discussing the Russian Treaty.

[1] See page 13.

Bounties and Subsidies

I have hitherto excluded food-stuffs from consideration, although there is at least one branch of this division of commerce in which the Germans have hit us with appalling force. I refer to Sugar. The subject makes a capital illustration of that off-shoot of Protection, the granting of Bounties on Home-Made Goods. This is briefly how the system is worked. Beetroot entering a German *fabrique* was officially weighed, and paid duty on the weight. When the Sugar was manufactured, a drawback was granted on the duty in respect of such of it as was declared for Export: the Government arriving at the amount of the drawback by calculating that a certain quantity of roots would yield a certain quantity of Sugar. The Fabricant in consequence addressed himself, and with great success, to the improvement of the manufacturing process and of the root-cultivation, so that now the roots yield a great deal more sugar than the Government calculation estimated. This Indirect Bounty was altered in '92 to a Direct Bounty, on the quantity of Sugar exported: the new system involving less drain on the German tax-payer. It may soon be done away with; but, whatever the ultimate issue, it has well served its purpose of building up huge home industry, and pretty well crushing out the English and West Indian trade.

Similar in principle and effect is the Subsidy System which prevails in Germany. It is granted to steamship lines, in addition to the sums paid for the carriage of mails, and takes the form of a Government guarantee of interest on capital. It is also extensively in operation on the railways. But this matter belongs to a separate section.

Transport

Undoubtedly cheaper transport is a powerful factor in the success attending German commerce, and it is the subject of frequent and bitter complaint against the English railway companies. It is, however, unfair to those companies, as well as making against a right understanding of the matter, to parade the often startling differences between English and Continental railway rates, and omit the explanation. There are of course a number of explanations; but the vital point to bear in mind is, that the lowness of German railway charges has its origin in State-aid. German lines are owned and worked by the Government, and they form in consequence a public service. It matters not so much therefore whether they earn a big profit or no profit at all. Their primary function is to serve the public interest; whether the financial statement of the Minister of Railways shows a balance or a deficit is, after all, only a matter of incidence of taxation: the public pay, in any event, either in railway rates or in taxes. Now, the German Government desires to forward the industrial progress of the State; it therefore favours that section of the public which is concerned with the shipping of home-made goods, and particularly favours manufactures destined for Export. Thus it is that comparative tables of railway-rates to shipping-ports in England and Germany respectively are paraded with much vituperative comment in trade journals, for the purpose of showing that the German rates on Export Goods are less than half those ruling in England. The facts are all right; but the explanation robs them of their force in the argument they are meant to illustrate.

A recent reduction of freight in Germany may be quoted as an instance of how the thing is done. Enormous quantities of English coal are sent to Swinemunde (for Stettin) and the other Baltic ports, and to stop this import the German Government, in February '96, reduced the railway

rates on coal from the Silesian fields to the same ports by 2*s.* 9*d.* a ton. The Act shows scant regard for the German tax-payer and for the prosperity of the Baltic ports ; but it is a deadly blow to English collieries and a magnificent aid to the Silesian. Thus is native industry encouraged! The German State, indeed, is always ready to lend a helping hand to a German industry. As further examples may be quoted the substantial reductions in the freight from Bremen on cotton on the Austrian and Saxon lines, inaugurated in '93 ; also the fact that German manufactures going to Chicago for the great Exhibition, were carried free on the State Railways. Again, the advantages in cheap ocean freights enjoyed by maritime countries are counteracted by specially low railway rates for overland transit, granted for the purpose, on the State railways of Germany. This arrangement hits England hard. It may, however, be parenthetically mentioned that the system is not always carried far enough to be successful. Thus, an order for several thousand tons of rails for the Sofia-Roman Railway of Bulgaria went to a British firm, because the maritime freight from England was too low to allow of German competitors with overland transit underbidding the English tender. But this case is an exception to the rule ; and I am quoting it as an additional proof that cheap freight is a vital factor in the success of an industry.

Now as to English railway rates. These are higher than the German, much higher, and, despite Railway and Canal Traffic Acts and traders' agitations, will remain much higher, so long as the present Railway System endures. English railways are run by private capitalists with the one object of extracting dividends. It is a legitimate commercial object, and the only point of difference between railway companies and traders is that railways are in the nature of monopolies: monopolies whose integrity is guaranteed by Parliament; for the Legislature is slow to grant powers to a competing company if the district is

already efficiently served. The existence of this practical monopoly does, indeed, justify the trader in demanding that it shall not be abused, to the injury of trade, for the purpose of securing high dividends. But before attacking the railway companies, we have to answer the question: — Are these dividends disproportionately high? The answer is made difficult by reason of the widely varying dividends declared by the different companies; but it is within the mark to say that a very small proportion of the ordinary share capital of English railways earns more than 7 per cent. This, at the present day, is very good interest, but it could scarce be called exorbitant. Many traders make very much less, it is true, but others, even now, make much more. It is obvious, at any rate, that the railway companies, unaided by the State, cannot reduce their rates to anything like the German level without landing themselves in bankruptcy. The cost of constructing and working railways in England is greater than in Germany, and the English State grants no manner of subsidy to the English companies. This is the explanation of the relative dearness of English railway transport. It does not, alas! minimise the ugly fact that German manufacturers (particularly when they are making for foreign markets) get their goods carried at rates so much below those which English manufacturers have to pay, that the cost to produce a German article in neutral markets is from that cause alone less than the cost of its English equivalent.

Here is another transport advantage which the German manufacturer enjoys. He may get a through-rate for his goods from his inland German town to Delagoa Bay or Smyrna, or any other foreign port, and get the advantage of cheaper transit which a through-rate carries with it, besides the other obvious advantage of a less expenditure of pains. This is impossible in England. If a manufacturer in a Lancashire town were to hand his merchandise to the local

railway goods-agent with a request that it be booked to Zanzibar, that official would probably seek the protection of the nearest policeman from a palpable lunatic. Finally, mention must be made of the big canal system in Germany, which already exists, and is being extensively enlarged. These cheap inland waterways are an invaluable aid to the manufacturers of heavy goods in the German interior.

The Englishman is at a disadvantage with his German rival in the sea freight also, and the charges brought against English Shipping Companies are most serious. Here is one, from a Report of the British Iron Trade Association :—

> Some British steamers, commencing to load for South America at Bremen and finishing at Liverpool, charge 8*s.* per ton at Bremen, but when they come to Liverpool charge 12*s.* 6*d.* and 10 per cent., with 5 per cent. returnable, being 5*s.* 1½*d.* in favour of the foreigner, even for the longer voyage. To Batavia from Amsterdam, goods are charged at 16*s.* 8*d.* per ton, which from Liverpool are charged 22*s.* 6*d.* and 10 per cent. For China, Japan, and even our own Colonies, from the above and other ports, similar differential rates are charged in favour of the foreigners.

For another very flagrant instance I will ask my reader to turn back to page 36. This prejudicing of English trade has been accounted for by the existence of a Shipping Ring, whose function is to keep up rates against English shippers and lower them in favour of Continental firms. But why the Ring? The better explanation—it is an adequate one—lies, as Mr. Jeremiah Head has pointed out, in the competition from the Continent of the Subsidised Steamship Lines. These lines have a minimum rate of interest on their capital guaranteed by the State; and whether laden or empty their steamers are bound to run. It pays them, therefore, to take cargo at a price otherwise unremunerative, if no better can be got. So the rates from Continental ports are brought down! English shipping companies trading from them have of course to conform to the prevailing rates: when they come

to load at English ports, they have not the same kind of competition to meet, and they can, and they do, charge higher rates.

Consideration of the Transport Advantages enjoyed by the German should be coupled with consideration of the cheaper Dock Accommodation which he possesses. I have dealt with the sad case of the trader at the London Docks in my remarks on the London Drug Trade.[1]

Commercial Consuls.

It is not my intention to join in that carping criticism of the British Consular Service which is not uncommon in English commercial circles. I have received in the preparation of this book too much help from Consular Reports (supplemented by private correspondence) to be disposed to swell an outcry against our representatives abroad. At the same time it must be admitted that the German service takes greater care of its commercial side than does the English. In my first chapter[2] I gave an instance from the German Legation at Chicago of the eagerness and intelligence with which the German Government assists its traders; and this instance well exemplifies the general view of the German State as to the duties of its representatives abroad. German consuls must not consider it an indignity to act as agents of German commercial houses. It is told of Prince Bismarck himself that when, as Chancellor, he was interviewing a Chinese Ambassador on diplomatic business, he would not let the mandarin depart till he had induced him to place a large contract for steel rails with a German firm. This example from headquarters is dutifully followed. Mr. Graham, in a valuable paper read to the London Chamber of Commerce in '95, illustrated the working of the system in Roumania. At the Bucharest

[1] See *ante* p. 94. [2] See p. 14.

Legation Germany has a complete staff of men, whose duty it is to inquire into every detail of trade in the interests of German manufacturers. If a contract is coming, the Legation sends home word thereof to the Government, so that German engineers and contractors may be ready with their tenders, and in every other possible manner the commercial attaché assists the trade of his countrymen.

The English service is organised on a different footing. It does not altogether reject the policy so successfully carried out by the Germans, but it halts a long way behind. We *have* Commercial Attachés, but only three for the whole of Europe—at Paris, St. Petersburg, and Constantinople! Our Consuls have much other work to do, and the attention they are able to bestow on merchants and commercial travellers is necessarily curtailed, and made subsidiary to other functions. In addition, they are not paid on a scale commensurate with the performance of the extensive duties in connexion with commerce which is exacted of the German Consular Service. But then, the German Government pays its Commercial Consuls better. As Mr. Mundella pointed out to the Sheffield Chamber of Commerce, the Germans spend £800 a year on a Consul at Milan, the centre of Italian industry. England has a Vice-Consul only, whose entire emolument is £50 a year, out of which he finds his own stationery! Our principal Consul is at Florence, where there is no trade.

There is a good deal of contradictory evidence as to the usefulness of English Consuls to English Trade. The *British Trade Journal*[1] in an article on Italy, has told its readers that "it is useless to write beforehand to the British Consuls at the towns to be visited by the traveller, as some manufacturers are in the habit of doing. Consuls never take upon themselves the responsibility of vouching

[1] 1st September, 1895.

for the financial position of firms." About three weeks before the publication of this article, a report was received at the Foreign Office from the Acting British Consul at Nice, complaining that "few, if any, commercial travellers of English business houses ever visit Nice, and if they do they never come to the Consulate, which is a pity, as in some cases valuable information and assistance might be afforded them." These statements are of a certainty conflicting, but of an equal certainty, they point to one undoubted source of the retreat of our commerce before that of Germany.

Add to the above the German Government's Commission to the United States to study the cultivation and manufacture of cotton on behalf of the German manufacturer, and your list of German State-help to German Industry will be nearly complete.

Education

The remaining factor is Education, and it is a factor of prime importance. I place it in the category of State-aids, because though the impulse to learn is an affair of the Individual, the opportunity to learn lies, for the mass of the people, with the State. The attention paid by the State in Germany to Education—and particularly to Scientific and Technical Education—is matter of common knowledge the world over, though the knowledge has not yet effectually dislodged the notion that the Germans are a people devoted to dreamy philosophy or plodding research into remote by-paths of knowledge; a people addicted to the piling up of facts of little use to any one, and least of all to their compilers. There are dry-as-dust enthusiasts everywhere, and Germany has her share of them; but the scientific training of the mass of her people is not dry-as-dust at all. It is severely practical. The Technical Education to be obtained in Germany is thorough,

and thoroughly scientific; *but it is meant for application.* Active use, rather than abstract mental improvement, is the main object kept in view; so it produces, not "superior" shopwalkers and "soulful" governesses, but artisans and engineers of the best class, men who know the why and the wherefore of their work, and do it well.

In the promotion of the education of its sons the Fatherland spares neither pains nor expense. First-rate Technical Colleges are normal adjuncts to the municipalities of German towns, and their work is supplemented by voluntary associations. The Central Government also is not unmindful of the overwhelming advantages in the commercial struggle-for-life conferred by Specialised Education. For example, the Imperial Government subsidises the Berlin Seminary of Oriental Languages to the tune of £2,450 a year, and takes a paternal interest in the Seminary's work; and the Legislature has made recommendations with a view to imparting to students meant for mercantile or industrial life in Asia and Africa the special instruction they need:—as a knowledge of commercial relations and statistics, tariffs and money exchanges, &c.

It is no exaggeration to say that there is not a subject germane to industrial, scientific or commercial training, which is not taught, and taught well, in numbers of schools up and down the German Empire. This training is laid on a sound foundation. German Elementary Education up to the age of fourteen years is compulsory and free, and Secondary Education, which is largely aided by the State, the municipality, and endowments, is practically free also. From the Elementary School the German scholar passes into the Gymnasium, which leads to the University or into the Science Schools, which lead to the Polytechnic, an institution under Government control. A glowing account of these Polytechnics and other Science and Art Schools was brought home by deputations from the Manchester Corporation and the Manchester Technical School, which visited the

Continent in '91. According to their reports the buildings are "in simple truth, palatial." They describe some of them in detail. I shall borrow by way of illustration a reference to the Charlottenburg Polytechnic, which numbers on its teaching staff eighty-six professors, lecturers and assistants, and thirty private tutors, and is most admirably equipped with scientific instruments and every appliance for the prosecution of advanced studies in architecture, structural and mechanical engineering, shipbuilding, chemistry, metallurgy, and general science. There is a mechanical workshop in connexion, and a library of 52,000 volumes; the chemical laboratories are lavishly fitted; the buildings, which were erected at a cost of £405,000, are all sumptuously appointed, and expense is practically disregarded. This, remember, in a country which, according to some of our wiseacres, will never seriously compete with England, because she lacks the capital!

The German Polytechnic, however, is a grade above what we usually connote by the term Technical Schools, but schools of lower grade flourish also. Take, for example, the Higher Trade Institute of Chemnitz. This institution serves for type of the schools intended for young men who are ambitious of being foremen or managers in workshops or commercial houses. There the scholar is expected to be, or to have been, working at some special trade. He receives a thorough grounding in the theory and technique of his chosen trade or profession, and the fees amount to only £3 a half-year, except in the case of foreigners, who pay double. The fees, of course, pay but a small proportion of the expenses, which are mainly provided by the State. The Manchester delegates were loud in praise of the appointments and arrangements all through the Institute. In the winter of 1890–91 its pupils numbered 770. The population of Chemnitz was only 120,000; yet Chemnitz does not appear to be an exceptional town. Such a proportion of students to population is significant.

Then there are the Weaving Schools. Chemnitz will again serve for example. The School here was founded in 1856; the land and the building were given by the town, which also grants £150 a year for maintenance, the State contributing a like amount. The course is for one year, and the fee is £13 10s., besides a small sum for materials and books. In return for this outlay the scholar gets practical instruction in weaving, working at every pattern in each loom until he understands the weave, and can work it unassisted. In addition he receives instruction in the theory of the loom, and in drawing and design.[1]

Nor is weaving the only trade scholastically taught in Germany. Builders and Machinists enjoy the like advantage. Take, for instance, the school at Stuttgart. It is a separate institution from the Technical High School of the town, and is intended to meet the wants of a poorer class of students. Pupils may enter at the age of fourteen, but at least one half of them have been engaged in actual work in the building trade. Though the fees amount to no more than 36s. per half-year, a tenth of the students are admitted free, and there are Royal Scholarships. "The school," I am quoting from the Manchester Technical School Report, "is practically designed for those engaged in the building trade, for land-surveyors and agents, and for mechanical engineers." Training is supplemented by visits to works, actual surveying, inspection of farms, drainage and hydraulic works. There is an abundant collection of models and appliances, and a library of nearly 70,000 volumes. The expenses are about £7,550 a year; about a tenth of which amount is paid by fees, the rest, with the exception of a small subsidy by the town, coming from the State.

In all these Technical Schools evening instruction is the exception:—a point worth noting, for there seems an opinion

[1] See the Manchester Corporation's Report, quoted in the *Record of Technical and Secondary Education* for March, '92.

in England that a young man, wearied with the day's work and in need of relaxation, can get the necessary technical training from evening classes. In Germany they are wiser. Yet evening instruction for artisans is not unknown there. An instance of it may be found in the municipal Handwerker-Schule of Berlin, which teaches drawing and design, especially as applied to industries, and gives apprentices a theoretical knowledge of their crafts at evening classes, the fees ranging from six to twelve shillings per half-year. When the Manchester Corporation Delegates visited Berlin they found no fewer than 2,212 students on the books.

Lastly, here is another sort of school. The Westphalian Miners' Provident Fund maintains fifteen preparatory schools (Bergvorschulen), where a course of instruction of the most useful kind is given. The system comprises a laboratory, which in one year (1894) made 1,809 analyses of fire-damp, and 189 complete analyses of coal, besides a number of tests of coke and briquettes, and analyses of iron ore and water.

Among other attachments to these schools is a mine-heading at Schlake, completly equipped and in regular operation, where many experiments have been made of the action of explosives on mine-gases and coal-dust. Then there is a shaft put down by the pupils, who have also been engaged in making a map of the Westphalian coal-fields, with a graphic representation of the development of the different mines.[1]

Foreigners are admitted to German Technical Schools on payment of higher fees; they are also excluded from certain examinations. But in Saxony efforts are being made to get rid of them altogether, which efforts are chiefly directed against Englishmen and Americans. A commentary on this German-made patriotism is to be found in Miss Ina C. Davis's Report on the Manchester Technical School, where she found that a third of the day pupils were

[1] See *Iron and Coal Trades Review*, 22nd November, 1895.

foreigners, "who, after completing their studies, return to their homes and compete with the people who provided them their training at a nominal cost." Such is the use to which our modest attempts at Technical Education are put!

I have been tempted to go thus far into detail on the subject of German Technical Education (as a fact the temptation has been to go still farther) because I wished to bring home to my reader the splendid system of industrial education which obtains in Germany, a system which is an integral factor in Germany's industrial success, and which, compared with anything in the nature of technical education to be found in England, is as an electric lamp to a rush-light. To quote once more from the Manchester Corporation's Report:

> It is not a subsidiary portion of educational work nor yet an exotic, but is all-pervading, and is as much a part of the life of the people as is elementary education. . . . . Provision is made at an early stage for specialising study with a view to future occupation and the kind of life a youth is destined for.

Self Help

Now I come to play the part of the candid friend. It is a thankless office; but my tabulation of the reasons why Germany beats us would be worse than incomplete were I to stop at the enumeration of the various forms of State-aid which the Germans enjoy, and which we lack. Those aids are many and of prime importance, as I have tried to show; but State-aid, howsoever good it may be, is far from being the one thing needed. It is useless for the husbandman to till the soil if his seed be rotten. The commercial harvest will fail in spite of the most careful State husbandry if the men of commerce themselves are wanting in vigour and intelligence.

Push

It is a little word, but it conveys the meaning of perhaps the biggest part of Germany's success. The German

has set out to conquer the world of industry. Difficulties which might well have daunted the bravest and the most enthusiastic have beset his path; but, so far from turning him back, they have apparently but nerved him to renewed exertion—with what results I have shown. Does he lack capital? Then simple living, waiting on thrift, shall bring it to him. Does he lack skill and knowledge? Then shall hard study and high thinking, companion to simple living, furnish forth his brain. Are there secrets locked up in foreign lands? He will go to foreign lands to win them, and cheerfully endure privation and rebuff in his quest. Is the market already well stocked with the products of other nations? His is the Cheapest Market; and he forces himself a passage by underselling his rivals, however low their prices. Is he unable to produce an article equal to theirs at equal cost to himself? He makes a colourable imitation, not shrinking sometimes in his enthusiasm from forgery itself.

Adaptability

Mere push, however, is not enough. It must be wedded to adaptability; and this union Germany has consummated. Intelligence, tact, and the determination to please are everywhere conspicuously apparent in the German's business dealings.

His commercial travellers are better than ours. When they go to a foreign country, they learn its language: a preliminary of commercial intercourse most frequently overlooked by English bagmen. English houses go even farther in the display of insularity. Listen to this: it sounds incredible, but it is from an official despatch of our Consul at Moscow:—

> It is useless for British firms to expect to do much good by sending price-lists and circulars to this Consulate printed in English; much money must be wasted on their publication and postage, and they are not at all appreciated by Russian buyers.

The German commercial traveller, too, is ubiquitous, and many towns in various parts of the world, where English travellers are unknown, are duly visited by him. Very recently the British Consul-General at Salonica reported to the Foreign Office the neglect by English travellers of this important commercial centre, and contrasted it with the frequent visits of Germans and others. This is the more remarkable, in view of the fact that England has managed to get a respectable trade at Salonica, though she is hard pressed, and in some directions is losing ground. Unless our English houses bestir themselves, it is safe to prophesy she will lose more.

And when representatives of English houses do visit foreign towns, they take their provincialism with them, and display it in a most fatal manner. As I have stated more than once, the last thing an English firm usually considers when soliciting orders, is the tastes of its customers. "These are our goods: take them or leave them," is in effect the general message which our emissaries of commerce carry. Germans, on the contrary, are always ready to comply with any hints their patrons may give them as to variations in design and alterations in form or quality. Nor do their agents wait for hints: they try to find out what is wanted, and they instruct their employers accordingly. So orders are plentiful; while the rigid Englishman takes home his bag of samples and an unfilled order-book.

And neglect of the wishes of foreign customers is not the only manner in which insularity delights to express itself. The English trader refuses to quote in terms of currency and weights and measures other than those of England. Here, too, need it be said? he contrasts with the German, and though it is impossible to compute the exact extent of the loss to English trade arising from this cause, it is declared by those in a position to know to be very great. And surely it does not require much acumen to discover that a

retail merchant, say, in Portugal, is likely to give a heartier welcome to the house which quotes its goods in Portuguese money and measures than to one whose quotations are according to the unknown and the very complicated arithmetic of the British Isles.

Sir Charles Oppenheimer [1] has called attention to another disadvantage attending the use of English measurements. He quotes as an example the German wool-cloth trade, in which an old practice obtains of measuring 37 inches to the yard, resulting in an advantage of $2\frac{1}{2}$ per cent. to the purchaser. The German, however, sells according to the metric system, of 100 centimes per metre, and so avoids the over-measurement. Now, calico and printed goods are sold in England in lengths of 48 yards, though the pieces actually contain 51 yards, and the excess is a present to the purchaser. Where competition is keen, and prices are cut, this excess goes far to represent the seller's profit. The German manufacturer knows better. He sells per metre and real lengths, and so is able to make more favourable offers.

German adaptability crops up at other points. Take the treatment of small orders. The proverb which enjoins a care for the pence, and promises that the pounds will take care of themselves, is an English saw, but the Germans shame the English in their application of it. The big English houses want big orders, and, with starchy dignity and a shortsighted contempt for possible expansions, scorn the small order, leaving it magnanimously to the German houses. They are ready enough to snap up any orders, however small. To be once more proverbial: "A cantle littles maks a muckle," is a Scots saying—practised by Germans. Not only so: the small order often leads to the large. A story lately current in the City illustrates the point. An English commercial traveller, returning from South America, was abused by the senior partner of his

[1] *Foreign Office*, 1890, Annual Series, No. 1586.

firm for sending home small orders, and was informed that no great house like theirs could take on the £5 business. The traveller pleaded the German practice. The senior partner consigned the Germans to the devil. Five years after the traveller returned, and heard the senior partner's lamentation over the decay of business. "It's Germans," was his explanation. "The £500 orders have followed the five-pounders." The senior partner suggested that they must take anything they could get. The traveller replied that there was precious little left. "You snubbed me once" (so the hardy drummer punctuated the moral) "for booking small orders, and sent the Germans to the devil. But it is our business which has gone to the devil; and there you are!"

Let me name another point: the Germans pack better. It may seem a small matter to the outsider. Really it is not so. *The Ironmonger* recently instituted inquiries as to this among other matters affecting our Export Trade, and the English merchants, consulted generally, admitted our inferiority to the Germans and the Americans. From this, and other sources of information, it is clear that the want of method, and the wasteful clumsiness of our own people, combined with their inability to indicate to their foreign customers the total freight cost of a consignment, inclusive of packing and carriage, tells against them in the world-market. This, and similar trade details which I might mention, may perhaps figure small in the eye of the reader of my remarks on such big topics as Protective Tariffs and Technical Education. But I can assure him that these matters of detail to which the Germans pay such sedulous attention, and which Englishmen so often neglect, count substantially in the list of reasons why Germany beats us.

In General

I might go on for many pages setting out the superior powers of self-help which the Germans possess, and owing to which they steal our markets. But I think I have indicated in this, or in those earlier chapters dealing with specific industries, the main features. Push and adaptability account for most; but one or two other qualities must be recorded. There is the great principle of Show. It might be imagined that, with our railway stations, our hoardings, our journals, our programmes, our fields and our bathing-machines smeared with advertisements of every ware known to civilisation, English traders can have little to reproach themselves withal on the score of pushing their merchandise into the public gaze. Yet, though the hoarding of bewildering ugliness is unknown in German streets, it is a fact that German manufacturers have somewhat to teach the English. I have spoken more than once of the curious reluctance to exhibit at international shows which has afflicted English manufacturers of late. They say that, by taking part in these exhibitions, they do but provide the foreigner with the opportunity for displaying his imitative skill. This argument is merely fallacious. The Germans are always well to the front at such exhibitions, and their trade is growing, their success, indeed, being ascribed by themselves in no small measure to this very fact. Englishmen should explain how they expect to sell their wares at all except by bringing them before the public. They should, to be consistent, refrain from advertising altogether.

At the same time English manufacturers are not entirely foolish in their dread of this faculty of imitativeness, which the German possesses in a remarkable degree. Indeed, a list of the factors in German success would be lacking in an important item were it omitted. Seeing how many inventions have England for birthplace, it is obvious

that the present proportions of German industry can only have been attained by a careful imitation of those inventions. It was thus the Germans got their start. They have come, and they still come, to England in large numbers for the very purpose; and, whenever they have deemed it expedient, they have engaged English managers and artisans to go to Germany, and work in the factories there. But it is significant that the German inventive genius, which in the past was somewhat backward, is now developing at a rate which bids fair soon to place the German beyond the need of English models. One special cause of complaint against him is that his imitations are inferior to the models, though (apart from fraud) his copy is often sufficiently like the British original to deceive the purchaser, and where it is of cheaper workmanship, and can therefore be sold at a lower price, the English maker is heavily handicapped. But it must not be forgotten that the German imitation is not as a rule inferior in all respects. In the matter of artistic finish it is often—one may say, as a rule—decidedly better. In many kinds of manufacture such superiority is vital: in most it is an integral factor. So artistry must be added to the list of those accomplishments which tell.

So, too, must the greater steadiness of the German worker. Ask your tailor whether he would rather employ an Englishman or a German? and why? His answer will be conclusive. In that view, however, it is a matter concerning the English workmen only, and so beside my present inquiry. But the greater steadiness of the German is also effective in another way, which is pertinent to my purpose:—the cost of running a factory is less when the men are regular. Engines have to be tended and fed, and the wear and tear of machinery goes on, whether sixty men or six hundred turn up on Monday morning. Of the fact that work in German factories does progress more steadily than in English,

there is no doubt whatever in the minds of those who have made observations in both countries.

Lastly, let me reiterate that the great cause of German success is an alert progressiveness, contrasting brilliantly, with the conservative stupor of ourselves. It is all very well to run an old-established business; but you must diligently and continuously be striving to bring its methods up to date. And this is what English manufacturers fail to recognise. There are plenty of exceptions, of course—chiefly amongst houses which have their reputations to make, though here and there are firms of established repute with men of foresight ready to break with orthodox tradition whenever they can find a better way. But the mass of English manufacturers and traders clings to the faith of its fathers; still thinks "We have never done so" a model sentence in commercial correspondence; still believes that what was good enough of old is good enough yet; ignores the constant change of condition, which renders the nature and wants of the market as variable as the weather. German houses reflect the exact opposite of this attitude. They are all for progress and the eager and intelligent study of changing fashions and changing needs. They are ready at all times to make a new departure, if thereby they may save but a single small market.

. . . . . .

These are the reasons why Germany beats us. The list has been a long one; yet I could not well have made it shorter, without leaving out items any one of which is capable of accounting for much of England's failure.

VIII

What we Must Do to be Saved

Is, shortly, the opposite of what we are doing now. This final chapter may therefore be brief. As matter of fact and dismal reflection, much of the harm wrought is irreparable: the German Industrial State is a fact, and there is no human probability of its being crushed. Much, too, may for the present be set down as almost irreparable, for the remedy could only come by revolution in the English State or in the English mind and habit. But much else is remediable—some of it easily remediable.

Fair Trade

This is one of the revolutionary changes, the most revolutionary indeed of all, and, in the present state of general opinion, one almost shrinks from reference to it. Yet there is now visible in the public mind a movement which makes discussion less appalling than it was. And in any case, as the question must be faced, it is well to give it a foremost place.

A consideration of the facts forces the conviction that England's Free Trade policy, existing side by side with

Protection in Germany, has been responsible in no small degree for the strides which Germany has made at England's expense. What then? Our fiscal policy requires to be reviewed if not recast. The conclusion is inevitable.

It is a bold saying, I know, and one which will make me many enemies. It is a view, too, which, with an Englishman's hereditary Free-Trade instinct, I have struggled against. But the struggle has availed me nothing. Those of my critics who, when the earlier portions of this book were appearing in serial form, assailed my work as being a piece of Protectionist Agitation (notwithstanding my disclaimer at starting) have misunderstood my position. My object, as I stated, was to make a diagnosis in a scientific spirit, and from that diagnosis to arrive at such remedies as might be. Most reluctantly have I been convinced that one cause of the disease afflicting the Industrial Body Politic is the pursuit of a Free Trade which is no Free Trade at all. Cobden anticipated that the cheapening of food resulting from the abolition of the Corn Laws would encourage English manufacture by diminishing the cost of living to the English worker. Free Trade, it was admitted, might hurt English agriculture; but, it was maintained, it could not but be of great service to English manufacture. How the alternative has been realised will be patent to those who have followed my statement of the under-selling of English goods both in England and abroad.

Let us face the position. England is being flooded with foreign manufactures, which come here duty free, and which are sold at a price made artificially low by the Protective Tariffs of other Governments. Under these Tariffs English goods have their cost raised in their passage through foreign ports, and in neutral markets also they are at a disadvantage with the goods of foreign rivals, whose

Protected home-markets permit reductions on Export Prices, which under normal conditions would be quite unremunerative.

Are we then to adopt an autonomous Protective Tariff? By no means: the time has gone by for that; just as surely as it has not yet come for the inauguration of complete Free Trade. A middle course is possible, and it is that middle course which I am here advocating, at whatever cost to popularity. Germany herself, under the Caprivi Administration, is a good illustration of it in practice. The motto is simply *quid pro quo*. **To the extent to which a foreign country shuts out our goods from her markets, to that extent should we penalise her goods in our markets.**[1]

Then, **we must federate the Empire,** in the most practical way—the way of commerce. At present we are losing our grip of our own colonies and dependencies, which are steadily falling into the hands of the German. German goods enter India and Canada and Australia and the Cape on equal terms with English goods; both pay duties, German no more than English. Surely this can be rectified? The existing treaties between England and Belgium and Germany must be got rid of—Lord Salisbury has said they should never have been entered into—and our colonies must learn to be filial. We protect them with our Flag; our gigantic Navy is largely for the purpose of safe-guarding them. But we pay all the cost; they, in return think they have done

[1] A critic in the *Bradford Observer*, suspecting me of Protectionism, advances a reason against Protection which is curious enough to repeat. He says that I "ought surely to learn that the decline of our export of manufactured goods to Continental nations is entirely due to their Protectionist tariffs." A strange argument, truly! Because other nations succeed in keeping out our goods by Protective Tariffs, therefore we ought not to adopt a like method for keeping out theirs! There is something missing from the Sequitur here.

their duty by the mother-country, when they have sung the National Anthem at their banquets. **They must discriminate in their Tariffs, and admit English products on more favourable terms than those of other nations.** We might in return discriminate between their produce and foreign produce entering England: Canadian and Australian Wheat, for example, might come free; Wheat from the United States and Germany and Russia being penalised with a ten per cent. Tariff. So we might become a great Industrial Empire.

The question, I know, bristles with difficulties. The alteration in our fiscal system would be attended with disadvantages. But the difficulties are not insuperable, and I think it is clear that the disadvantages would be more than compensated by the benefit which would accrue.

A year or two ago such a suggestion would have been classed with Utopian dreams. Fair-Traders were commonly laughed at; to-day Fair Trade is within the range of practical politics.

Subsidised Transport

This is an exceedingly difficult question. German success is in part due to the low transport charges paid on German merchandise; that lowness is the result of the State subsidy system which prevails in Germany. Shall we follow suit? To do so would be to take on a form of Protection: though that consideration should not in itself be fatal to the proposal. The question to decide is,—Would the British tax-payer consent to pay the piper? The payment would have to be a heavy one; for the discrepancy between English and Continental railway rates is big, especially on goods destined for export, and equalisation would be a costly business. The thing is feasible, of course, and its benefits to English manufacture would be undoubted and great. Moreover, it is almost

the only way of effecting any large reduction in English railway rates, and it will be hard work to screw much more out of the companies. But it is a form of Protection which no Government would venture on with a light heart. Yet ours would have a certain sort of precedent for granting this aid if it were so minded : the Treasury is offering a million sterling to help light railways and agriculture, and the principle is much the same in the case of ordinary railways and manufacture. But there is another method of checkmating our rival. The English Government once proposed to tax bounty-fed German sugar to the extent of the bounty. **All German manufactures carried at specially low export rates on German State lines should be penalised at English ports to the extent of the bounty.** It would be a most excellent reform ; and it would be most welcome. The German Government, for example, would soon tire of letting Silesian coal-owners send their coal at ruinously low rates to Baltic ports for shipment to England, when it found that England calculated the amount it gave, and added an equal sum to the cost of the coal on landing in England.

Commercial Consuls

Under this heading in the previous chapter I called attention to the greater usefulness of the German Consular Service. Here, at any rate, we are outside the region of controversy, and no one can refuse to follow me on the plea that I am leading him astray from the sacred principles in which he has been reared. There are no drawbacks to the institution of improvements here, nor is the path of reform beset with difficulties. **Our commercial attachés must be increased in number.** Three for the whole of Europe is a mere absurdity. Every Legation should have one as a matter of course. And

our Consular System must be overhauled. There must be no poorly paid Vice-Consuls at industrial centres. Properly and well-trained men must represent our commerce in all important towns throughout the world, and they must be remunerated on a fit and proper scale. They should regard it as their chief business, the pushing of English trade, and the assisting of English traders, both personally and by the collection and dissemination of knowledge as to changing fashions and wants and conditions of market. **The Consular Bureau should be a commercial barometer for the use of English manufacturers and merchants.**

Here is one useful remedy which may be applied immediately; without raising any controversy; without treading on any corns; without very much trouble to State Departments concerned; without much expense, relatively to the sums which the State spends in other directions; but with the certainty of doing *something*—probably something substantial—towards checking the ebb of our commercial prosperity.

Technical Education

We must give our people a sound practical and theoretical acquaintance with the industries in which they are to work. There are who place the lack of Technical Education in England in the forefront of her failure, and they are men whose opinion is worth heeding. I endeavoured in the previous chapter to give an idea of the way the German educates. We must take example by him. We have already Technical Education of a kind in England, and Mr. Ritchie estimates that we spend four millions a year upon it; but it is insignificant and half-hearted. The Technical Instruction Act of 1889, giving local authorities power to supply, or aid in the supply of,

technical instruction, is a move in the right direction; the Local Taxation (Customs and Excise) Act, 1890, under which a sum, amounting in one year ('94–5) to £744,000, is given to English County Councils and County Boroughs for technical education, is another: though some of these local bodies, to their shame, diverted £144,000 of this sum to the relief of their rates last year. But more, very much more, needs to be done. It is no use to boggle at the expense. You grumble at your children's school bills: but you pay them, knowing the schools to be necessary; and you must pay the national bill, for the nation's education is also necessary. See to it that the money is rightly expended; but make up your minds to spend it. We increase our naval armaments to keep pace with the development of foreign powers; it is just as wise and necessary a policy to increase our educational arma ments, so that our industrial army shall not fall below the standard of Germany's. As a fact, it has fallen very far below. We have now to make up lee-way, and the best endeavours of statesmen and educational experts should be devoted to the task. There is none more pressing.

The advocacy of this policy needs no further argument; but in case that among my readers there remain any yet unconvinced—any who, in spite of the lesson spread out before them, still rely on the position that England got on very well in the past without technical schools—let me remind these unbelievers that the conditions of to-day are entirely changed. We got our supremacy from a number of political and other causes, which I alluded to in my first chapter. Those causes no longer operate. We have now to defend our position against the most determined and the best equipped foes; and for this warfare the best possible training is needed.

This is not the place for a detailed discussion of the improvements and new departures which we require; but

there is one suggestion I desire to put forward. The Technical Instruction Act provides for instruction in the principles of science and art applicable to industries, and in the application of special branches of science and art to specific industries; but it forbids teaching the practice of an industry. This is wrong. The one ought to be done, but the other ought not to be left undone. The apprenticeship system is disappearing, and practical instruction in an industry must be provided. **The actual trade must be taught.** Here and there, it is true, despite the Act, actual trades are being taught, and with the money provided by the Act. For example, at Luton instruction under the Act is now being given in the practice of the local straw-plaiting industry, which had got into a moribund condition; the effects so far have been most satisfactory, and are reviving the trade. In other words, the Act attempts to draw a distinction, which would be foolish if it could be put into practice, and though in several towns it is wisely ignored, it is objectionable, and should be got rid of.

Let me make one other suggestion. Why cannot Technical Instruction be commenced in Board Schools? There seems no convincing reason why Elementary Education should be merely literary; while there seems every reason why it should be combined with healthy and interesting training in manual industry and artistic craftmanship. The time-limit blocks the way at present to much reform; and the age at which children of the poorer classes are taken away from school should be raised. But in the meantime many hours might be saved by compressing the less necessary parts of the school curriculum. Learning the names of Canaanitish chiefs and the like gymnastics of the mind might with advantage make room for elementary instruction in some useful or beautiful craft.

Individual Enterprise

But let me again reiterate that help from the State is not enough. Fair Trade, Commercial Consuls, Technical Colleges—good and necessary as they are—will not avail to stem the inroad of the German, unless our manufacturers and merchants brace themselves for exertions more strenuous and better directed, and a more forward and spirited policy generally, than have been the rule with them for many years.

They must be more studious of the tastes and wishes of their customers. Evidence on this head is accumulating daily; scarce a British Consul's report but emphasises the paramount need of English manufacturers paying more regard to the desires of those with whom they do, or would do, business.

They must send out travellers who know the language of the country which they are to canvass.

They must cease to scorn the small order. Witnesses to the folly of contemning orders derisively described by English houses as "mere retail business" are numerous. The manufacturers usually awake to the fatal results which follow this policy of pinchbeck magnificence when the trade has gone.

They must pay more heed to the merits of careful packing, and the like details of well-conducted commerce.

Yet more important: **They must have an up-to-date equipment in their workshops.** Much of the disaster which has overtaken our Iron and Steel Trades is attributed to the better machinery of the Continental iron-masters. Much of the havoc wrought in our Chemical trades is due to parsimony in equipment.

They must adopt the Metric System of Weights and

Measures, for their Export Business at any rate. It is difficult to refer to this subject without exhibiting impatience. Statesmen approve the reform in their speeches; Chambers of Commerce resolve that it is a necessity; the Decimal System forms part of the Board School repertory: no one has a word to say against its adoption. Yet our traders persist—knowing it to be to their own hurt—in the antiquated and clumsy table of Weights and Measures used by our forefathers before international commerce was born. Also, **whatever the system of money and measures in vogue in a country in which Englishmen** purpose to trade, they must conform to that system, or be prepared to see the puzzled native transfer his orders to the accommodating German.

They must be more artistic. It is well enough—it is very well—to be thorough and substantial, but articles for sale must take the eye of the purchaser, and English goods are very often inferior to German in this respect. The defect must be remedied: it is hard to believe that elegance is beyond the reach of English designers and craftsmen. If our people will only recognise the importance of graceful form, pleasing design, and artistic finish, and cultivate the necessary skill, they can repair the deficiency, in a great measure. Any way, the experiment is worth trying. Arts and Crafts Exhibitions should not be regarded as the property of Mr. John Burns's "æsthetic dawdlers."

They must practise the Imitative Art. Englishmen have done this in the past—witness the foreign names of many English manufactures: "holland," to take one example: which indicate an originally foreign industry captured by our own people. But the Germans have shown themselves even better and more thorough masters of the art, as Englishmen know to their cost. Englishmen must practise it more sedulously.

They must advertise more boldly. The fear of exhibitions is a craven fear, and must be overcome. Just now, particularly, when English goods are being supplanted by German, our manufacturers, when their manufactures are worthy of praise, should take advantage of any chance that may offer of putting them before the public side by side with the German equivalent. Foreigners who want to imitate English wares can secure the necessary specimens; they are not confined to looking at them through a glass case.

Labour Troubles must be avoided. English manufacturers should recognise that it is necessary for their servants to enjoy decent conditions of life. Well paid workers—other things being equal—are the best workers, and a raising of wages or a shortening of hours is often a profitable investment. It is poor policy on the part of the masters to risk or throw away trade for the sake of a few pence. And the men on their part should be careful how they foster disputes; the rules of a trade-union should not be rigid in non-essentials, but should emulate the elasticity of the market and the changing conditions of industry. Trade-unionism is a beneficent power, when it is wielded with discretion. One often observes signs of a lack in this regard.

Lastly, **Englishmen must be more progressive.** They must not rest on their reputation; they must be ever alert and watchful, ready to take instant and full advantage of new discoveries, ready to accommodate themselves to the continual changes in the wants of the peoples of all nations. Let the fate of the Dyeing Trade serve for a common warning.

* * * * * * *

Are these counsels of perfection? They are counsels, nevertheless, which are, every one of them, necessary to salvation. Every one of them is followed in Germany, and

I decline to believe that England's industrial character has so deteriorated that she is unable, an she will, to pull herself up to the German standard of conduct. *Her unique position as unchallenged mistress of the Industrial World is gone, and is not likely to be regained.* But some of the departed glory may yet be restored to her. At least let us see to it that she fares no worse.

THE END

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